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Similiarity (pValue) following a BLASTX analysis	0	0	
Protein Name of protein identified following a Similiarity classificatio BLASTX analysis of the CuraGen (pValue) following a sequence sequence BLASTX analysis	Sociated ID:P20648 POTASSIUM-TRANSPORTING ATPASE ALPHA CHAIN (EC 3.6.1.36) (PROTON	ALPHA SUBUNIT) - HOMO SAPIENS (HUMAN), 1035 aa. Human Gene SWISSPROT-	ID:P18084 INTEGRIN BE IA-5 SUBUNIT PRECURSOR - HOMO SAPIENS (HUMAN), 799 aa.
Protein classificatio n of CuraGen gene	ATPase_as sociated	cadherin	
Base Base Amino Amino Type of Protein before after acid acid change classific n of before after curaGe	SILENT- CODING	SILENT-	CODING
Amino acid after	Gin	F	
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Polymorphic sequence	CGCTGACAGGGG A AGTCTGAGCCACA [A/GJACCCGCTCA	CACG	ATGGATAGICCAT A CTGGTTGGATGC[A/TJGTGTACTCGT TGGCCTCGTTCAG GT
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raGen quence ID	cg43333349		cg43931765
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Himan Gene SWISSNEW-	Inchesion MOLECULE, 140 KD ADHESION MOLECULE, 140 KD ISOFORM PRECURSOR (N-CAM 140) (NCAM-140) (CD56 ANTIGEN) - HOMO SAPIENS (HUMAN), 848 aa. pcls:SWISSPROT-ID:P13591 NEURAL CELL ADHESION MOLECULE, 140 KD ISOFORM MOLECULE, 140 KD ISOFORM PRECURSOR (N-CAM 140) (NCAM- 140) (CD56 ANTIGEN) - HOMO SAPIENS (HUMAN), 848 aa.	Human Gene SWISSNEW- ID:Q08554 DESMOCOLLIN 1A/1B PRECURSOR (DESMOSOMAL GLYCOPROTEIN 2/3) (DG2/DG3) - HOMO SAPIENS (HUMAN), 894 aa. Ipcls:SWISSPROT-ID:Q08554 DESMOCOLLIN 1A/1B PRECURSOR (DESMOSOMAL GLYCOPROTEIN 2/3) (DG2 / DG3) - HOMO SAPIENS (HUMAN), 894 aa.	
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THuman Gene SWISSNEW-	ID:008554 DESMOCOLLIN 14/1B PRECURSOR (DESMOSOMAL GLYCOPROTEIN 2/3) (DG2/DG3) - HOMO SAPIENS (HUMAN), 894 aa. Ipcls:SWISSPROT-ID:008554 DESMOSOLLIN 14/1B PRECURSOR (DESMOSOMAL GLYCOPROTEIN 2/3) (DG2 / DG3) - HOMO SAPIENS (HUMAN), 894 aa.	Human Gene SWISSPROT- ID:P08514 PLATELET MEMBRANE GLYCOPROTEIN IIB PRECURSOR (GPIIB) (INTEGRIN ALPHA- IIB) (CD41) - HOMO SAPIENS (HUMAN), 1039 aa.	SPROT- ET MEMBRANE IB PRECURSOR I ALPHA- IIB) PIENS	Human Gene SWISSPROT- ID:P08514 PLATELET MEMBRANE ID:P08514 PLATELET PLATELE
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Human Gene SWISSPROT- 0	номо	Human Gene SWISSPROT- ID:P21815 BONE SIALOPROTEIN II	PRECURSOR (BSP II) (GELL-BINDING SIALOPROTEIN) (INTEGRIN-BINDING SIALOPROTEIN) - HOMO SAPIENS HIMAN), 317 aa.	Human Gene SWISSPROT- 7.00E-172	ID:P21815 BONE SIALOPROTEIN II PRECURSOR (BSP II) (CELL- BINDING SIALOPROTEIN)	SAPIENS	Human Gene SPTREMBL- 8.00E-155	ID:Q64411 PRUCAS INCOMPRINGEN PRECURSOR (EC 3.4.23.3) (PEPSIN C) - CAVIA PORCELLUS (GUINEA PIG), 394 aa.	
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	(3p21.3)	1 (1p32)	9 (9q34.3)	<u>1 (1q32)</u>	1 (1p21)
			1.40E-104	1.10E-69	5.00E-304 1 (1p21)
	Human Gene SWISSPROT- 10:002388 COLLAGEN ALPHA 1(VII) CHAIN PRECURSOR (LONG-CHAIN COLLAGEN) (LC COLLAGEN) - HOMO SAPIENS (HUMAN), 2944 aa.	SPROT- EMENT ALPHA CHAIN MO SAPIENS	ologous to 07360 8 GAMMA CHAIN OMO SAPIENS	ar to E246058 ECEPTOR 2 - (MOUSE), 651 aa	Human Gene SWISSPROT- ID:P09603 MACROPHAGE COLONY STIMULATING FACTOR-1 PRECURSOR (CSF-1) (MCSF) - HOMO SAPIENS (HUMAN), 554 aa.
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1.50E-107 17 (176)	1.60E-266 11	2.00E-229
Human Gene Homologous to SWISSPROT-ID:P09919 GRANULOCYTE COLONY- STIMULATING FACTOR PRECURSOR (G-CSF) (PLURIPOIETIN) - HOMO SAPIENS (HUMAN), 207 aa.	Human Gene TREMBLNEW- ID:G2979625 PYRUVATE DEHYDROGENASE COMPLEX PROTEIN X SUBUNIT PRECURSOR - HOMO SAPIENS	(HUMAN), 501 aa. Human Gene SWISSPROT- ID:P45954 ACYL-COA DEHYDROGENASE, SHORT/BRANCHED CHAIN SPECIFIC PRECURSOR (EC 1.3.99) (SBCAD) (2-METHYL BRANCHED CHAIN ACYL-COA BRANCHED CHAIN ACYL-COA HOMO SAPIENS (HUMAN), 432 aa.
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cg41533258 597	cg43996714	cg43259523
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aa. 2.50E-103 AN), AN), 2.50E-103 AN), AN, AN,	
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dehydrogen Human Gene SWISSNEW- ase ID:P08319 ALCOHOL DEHYDROGENASE CLASS II PI CHAIN (EC 1.1.1) - HOMO SAPIENS (HUMAN), 391 aa.lpcis:SWISSPROT-ID:P08319 ALCOHOL DEHYDROGENASE CLASS II PI CHAIN (EC 1.1.1) - HOMO SAPIENS (HUMAN), 391 aa. Human Gene Homologous to SPTREMBL-ID:Q92816 CYTOPLASMIC DYNEIN 3 HEAVY CHAIN - HOMO SAPIENS (HUMAN), 197 aa (fragment). Human Gene Homologous to SPTREMBL-ID:Q92816 CYTOPLASMIC DYNEIN 3 HEAVY CHAIN - HOMO SAPIENS (HUMAN), 197 aa (fragment). dynein SPTREMBL-ID:Q92816 CYTOPLASMIC DYNEIN 3 HEAVY CHAIN - HOMO SAPIENS (HUMAN), 197 aa (fragment).	CHAIN - HOMO SAPIENS (HUMAN), 197 aa (fragment).
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us to	SPTREMBL-ID:Q92816 CYTOPLASMIC DYNEIN 3 HEAVY CHAIN - HOMO SAPIENS (HUMAN), 197 aa (fragment).	Human Gene TREMBLNEW- 0	ID:G2865466 HEAT SHOCK PROTEIN 75 - HOMO SAPIENS	(HUMAN), 649 aa.	Himan Gene Homologous to	IEAT- OCCUS :500 IEAT- OCCUS	
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1446 CAAGITCCTCAAT C T Glu SILENT esterase Human Gene SWISSNEW- 1.90E-178			
CAAGTTCCTCAAT C T Glu SILENT- Esterase Human Gene SWISSNEW- D:0.15166 SERUM PARAOXONASEJARYLESTERASE CODING CODING CTGGCTCCACTTC CTGGTCACTCACTTC CTGGTCACTCACTTC CTGGTCACTCACTTC CTGGTCACTCACTTC CTGGTCACTCACTCACTCACTCACTCACTCACTCACTCAC			
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CAAGTTCCTCAAT C T Glu SILENT- CAGGTCTA CTGCCTCCACTTC TC		(SERUM ARYLDIAKYLPHOSPHATASE 3) (A- ARYLDIAKYLPHOSPHATASE 3) (A- ESTERASE 3) - HOMO SAPIENS (HUMAN), 341 aa (fragment).	
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.30E-60 21	1.90E-256	1.30E-248
Human Gene Similar to SWISSNEW- 3.30E-60 ID:Q23917 3',5'-CYCLIC-NUCLEOTIDE PHOSPHODIESTERASE REGA (EC 3.1.4.17) (PDEASE REGA) - DICTYOSTELIUM DISCOIDEUM (SLIME MOLD), 793 aa jpcis:SWISSPROT-ID:Q23917 3',5'-CYCLIC-NUCLEOTIDE PHOSPHODIESTERASE REGA (EC 9.1.4.17) (PDEASE REGA) - DICTYOSTELIUM DISCOIDEUM (SLIME MOLD), 793 aa.	Human Gene SWISSPROT- ID:P47870 GAMMA- AMINOBUTYRIC-ACID RECEPTOR BETA-2 SUBUNIT PRECURSOR (GABA(A) RECEPTOR) - HOMO SAPIENS (HUMAN), 474 aa.	Human Gene SWISSPROT- ID:P14867 GAMMA- AMINOBUTYRIC-ACID RECEPTOR ALPHA-1 SUBUNIT PRECURSOR (GABA(A) RECEPTOR) - HOMO SAPIENS (HUMAN), 456 aa.
esterase	gaba	gaba
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CCTGGACCACTTCC A G Gin Gin SILENT- glucoamylas
CCTGGACGTCC A G Gin SILENT- CCTGGACGTC A G Gin SILENT- CCTGGACGTC CCTGGACGTC CCTGGACGTC CCTGGACTACATG GACTACATG GACTACATGAG GACGCTTCATCATGG GAGGGCTTCATCATGG GAGGGCTTCATCATGG GAGGGCTGCCC A AT9 ATTCCAAATGAG GACGGCTGCCC A AT9 SILENT- CG43969076 443 AATTCCAAATGAG GACGCTGCAGCG GATTTTTGATCCAG A Tyr Tyr SILENT- CG43969014 325 AATTCCAACCAG GATTTTTGATCCAG A Tyr Tyr CODING GATTTTTGATCCAG GATTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT
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	glycoprotein Human Gene SWISSPROT- ID:P16452 ERYTHROCYTE MEMBRANE PROTEIN BAND 4.2 (P4.2) (PALLIDIN) - HOMO	SAPIENS (HUMAN), 690 aa. olvcoprotein Human Gene SWISSPROT-	ID:Q12889 OVIDUCT-SPECIFIC GLYCOPROTEIN PRECURSOR (OVIDUCTAL GLYCOPROTEIN) (OVIDUCTIN) (ESTROGEN-DEPENDENT OVIDUCT PROTEIN) -		ID: Q12889 OVIDUCT-SPECIFIC GLYCOPROTEIN PRECURSOR COVIDI ICTAL GLYCOPROTEIN)	(OVIDUCTIN) (ESTROGEN- DEPENDENT OVIDUCT PROTEIN) - HOMO SAPIENS (HUMAN), 678 aa.	glycoprotein Human Gene SWISSPROT-	ID:Q00013 55 KD EKT I HKOCT I E MEMBRANE PROTEIN (P55) - HOMO SAPIENS (HUMAN), 466 aa.	
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2.00E-183 1 (1921)	6.70E-183	
glycoprotein Human Gene SWISSNEW- ID:P06126 T-CELL SURFACE GLYCOPROTEIN CD1A GLYCOPROTEIN CD1A GLYCOPROTEIN CD1A CELL SURFACE ANTIGEN T6/LEU- 6) (HTA1 THYMOCYTE ANTIGEN) - 6) (HTA1 THYMOCYTE ANTIGEN) - 6) (HTA1 THYMOCYTE ANTIGEN) - CELL SURFACE GLYCOPROTEIN CELL SURFACE GLYCOPROTEIN CD1A PRECURSOR (CD1A ANTIGEN T6/LEU-6) (HTA1 ANTIGEN T6/LEU-6) (HTA1 THYMOCYTE ANTIGEN) - HOMO SAPIENS (HUMAN), 327 aa.	glycoprotein Human Gene SWISSNEW- ID:P29016 T-CELL SURFACE GLYCOPROTEIN CD18 GLYCOPROTEIN CD18 PRECURSOR (CD18 ANTIGEN) - HOMO SAPIENS (HUMAN), 333 HOMO SAPIENS (HUMAN), 333 ADICIS:SWISSPROT-ID:P29016 T- CELL SURFACE GLYCOPROTEIN CD18 PRECURSOR (CD18 ANTIGEN) - HOMO SAPIENS (HUMAN), 333 aa.	
glycoprotein	glycoprotein	
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	1 (1921)	14 (14q11.2)
7.60E-127	1.60E-119 1 (1q21)	9.90E-70
glycoprotein Human Gene Homologous to SWISSNEW-ID:P01732 T-CELL SURFACE GLYCOPROTEIN CD8 ALPHA CHAIN PRECURSOR (T-LYMPHOCYTE DIFFERENTIATION ANTIGEN T8/LEU-2) - HOMO SAPIENS (HUMAN), 235 aa. pcls:SWISSPROT-ID:P01732 T-CELL SURFACE GLYCOPROTEIN CD8 ALPHA CHAIN PRECURSOR (T-LYMPHOCYTE DIFFERENTIATION ANTIGEN T8/LEU-2) - HOMO SAPIENS (HUMAN), 235 aa.	glycoprotein Human Gene Homologous to SWISSPROT-ID:P02743 SERUM AMYLOID P-COMPONENT PRECURSOR (SAP) (9.5S ALPHA- 1-GLYCOPROTEIN) - HOMO SAPIENS (HUMAN), 223 aa.	glycoprotein Human Gene Similar to SWISSPROT-ID:P16452 ERYTHROCYTE MEMBRANE PROTEIN BAND 4.2 (P4.2) (PALLIDIN) - HOMO SAPIENS (HUMAN), 690 aa.
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cg44004667 1183	cg43068999	cg41568631
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9.90E-70 (3.00E-52	3.60E-120 1	4.30E-216
glycoprotein Human Gene Similar to SWISSPROT-ID:P16452 ERYTHROCYTE MEMBRANE PROTEIN BAND 4.2 (P4.2) (PALLIDIN) - HOMO SAPIENS (HUMAN), 690 aa.	glycoprotein Human Gene Similar to SPTREMBL- 3.00E-52 ID:Q91406 IP1=CNS MYELIN P0-LIKE GLYCOPROTEIN - UNKNOWN, 202 aa.	glycoprotein Human Gene Similar to SPTREMBL- 3.00E-52 ID:Q91406 IP1=CNS MYELIN P0-LIKE GLYCOPROTEIN - UNKNOWN, 202 aa.	Human Gene Homologous to SWISSPROT-ID:Q12099 PROBABLE ATP-DEPENDENT RNA HELICASE FAL1 - SACCHAROMYCES CEREVISIAE (BAKER'S YEAST), 399 aa.	Human Gene SWISSPROT- ID:P50458 HOMEOBOX PROTEIN LH-2 - HOMO SAPIENS (HUMAN), 423 aa.
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GCTCTGTGGAGT CCATCAAGAATGG [C/G]CTGGTCTAC ATGAAGTACGACA CGC	GCATCCAGTGGG TAGGGGACCCTC G[C/IJTGGAAGGA TGGCTCCATTGTC ATAC	TACACAACCTAGA CTACAGTGACAA[T/CJGGCACGTTCA CTTGTGACGTCAA AA	AGTCCCTTCTCCG TGCCACCTACGC[G/C]TATGGTTTG AGAAGCCCTCTG CCA	AGTCTTACTTTGC CATTAACCACAA[C //ICCCGACGCCAA GGACTTGAAGCA GC
1545	361	409	465	1353
cg41568631	cg41603916		cg34317662	cg43983917
46	47	48	49	20

	7			2 (2q21)
4.30E-216	2.60E-188	1.10E-123	1.30E-113	0
Human Gene SWISSPROT- ID:P50458 HOMEOBOX PROTEIN LH-2 - HOMO SAPIENS (HUMAN), 423 aa.	Human Gene SWISSPROT- ID:P28356 HOMEOBOX PROTEIN HOX-D9 (HOX-4C) (HOX-5.2) - HOMO SAPIENS (HUMAN), 342 aa.	Human Gene Homologous to SWISSPROT-ID:P17509 HOMEOBOX PROTEIN HOX-B6 (HOX-2B) (HOX-2.2) (HU-2) - HOMO SAPIENS (HUMAN), 224 aa.	Human Gene Homologous to SWISSPROT-ID:P09629 HOMEOBOX PROTEIN HOX-B7 (HOX-2C) (HHO.C1) - HOMO SAPIENS (HUMAN), 217 aa.	Human Gene SWISSPROT- ID:P09848 LACTASE-PHLORIZIN HYDROLASE PRECURSOR (EC 3.2.1.108) (EC 3.2.1.62) (LACTASE- GLYCOSYLCERAMIDASE) - HOMO SAPIENS (HUMAN), 1927 aa.
homeobox	нотеорох	homeobox	homeobox	hydrolase
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
Asp	Ala	Lys	Lys	Arg
Asp	Ala	Lys	Lys	Arg
—	 -	∢	O	ပ
U	O	<u>ن</u>	 ⊢ _	⋖
ACTTTGCCATTAA CCACAACCCCGA[C/TJGCCAAGGACT TGAAGCAGCTCG CGC	TGGAGCGAGCGT GGATCCAGTTCG C[G/T]GCGGGGTT GTTTGGGTCAAGT	GTTACCAGACGCT G GGAGCTGGAGAA[G/A]GAGTTTCACT ACAATCGCTACCT GA	TCAGGTAGCGATT GTAGTGAAATTCĮT /CJTTCTCCAGCTC CAGGGTCTGGTA GC	GGGAGCATITG CCAATCAGTCCAG [AGGCGGAAAGG GATGCCTTCCTGC AGG
1359	979	689	810	1124
cg43983917 1359	cg42730678	cg42714160	cg43959084	cg42359655
51	52	53	54	55

			
2 (2q21)	2 (2q21)	16 (16q22)	5
0	0	2.00E-220	0
Human Gene SWISSPROT- ID:P09848 LACTASE-PHLORIZIN HYDROLASE PRECURSOR (EC 3.2.1.108) (EC 3.2.1.62) (LACTASE- GLYCOSYLCERAMIDASE) - HOMO SAPIENS (HUMAN), 1927 aa.	Human Gene SWISSPROT- ID:P09848 LACTASE-PHLORIZIN HYDROLASE PRECURSOR (EC 3.2.1.108) (EC 3.2.1.62) (LACTASE- GLYCOSYLCERAMIDASE) - HOMO SAPIENS (HUMAN), 1927 aa.	Human Gene SPTREMBL- ID:Q13194 11-BETA- HYDROXYSTEROID DEHYDROGENASE TYPE 2 - HOMO SAPIENS (HUMAN), 405 aa.	Human Gene TREMBLNEW- ID:G2114410 INTERLEUKIN-16 - HOMO SAPIENS (HUMAN), 631 aa.
hydrolase	hydrolase	hydroxyster oid	interleukin
SILENT.	SILENT- CODING	SILENT- CODING	SILENT- CODING
Ξ <u>ς</u>	o O	a 	و
H S S	Gly Sign	\alpha al	Pro
		⋖	F
O	U	O	O
ACAGCCAGCGGT TTGGCCTGCACCA [C/T]GTCAACTTCA GCGACAGCAGCA AGT	ATCTGGTCACCCT C GCAGAACCTGGG[C/TJGTGTCCCACT ACCGTTTTCCAT CT	TGGTGTGGGCCT TGGTGAACTCTAG [C/A]ACGCGGCTA ATGTCTCCTGGTT	GGAAGCTGACTC CAGAGGCCATGC C[C/T]GACCTCAA CTCCTCCACTGAC TCTG
2468	4340	1329	1689
cg42359655 2468	cg42359655	cg43998672	cg43922672
56	57	58	29

7 (7p21)	5 (5p13)
3.40E-108 7 (7p21)	3.10E-249 5 (5p13)
interleukin Human Gene Homologous to SWISSPROT-ID:P05231 INTERLEUKIN-6 PRECURSOR (IL- 6) (B-CELL STIMULATORY FACTOR 2) (BSF-2) (INTERFERON BETA-2) (HYBRIDOMA GROWTH FACTOR) - HOMO SAPIENS (HUMAN), 212 aa.	interleukinre Human Gene SWISSNEW- cept ID:P16871 INTERLEUKIN-7 RECEPTOR ALPHA CHAIN PRECURSOR (IL-7R-ALPHA) (CDW127) (CD127 ANTIGEN) - HOMO SAPIENS (HUMAN), 459 aa-[pcls:SWISSPROT-ID:P16871 INTERLEUKIN-7 RECEPTOR ALPHA CHAIN PRECURSOR (IL- 7R-ALPHA) (CDW127) (CD127 ANTIGEN) - HOMO SAPIENS (HUMAN), 459 aa.
interleukin	interleukinre cept
SILENT- CODING	SILENT.
 - 	ii Si
\alpha al	E E
ပ	-
o 	O
GTAGTGAGGAAC G AAGCCAGAGCTG T[G/C]CAGATGAG TACAAAAGTCCTG ATCC	AGTTGGAAGTGAA C TGGATCGCAGCT C/TTCACTGACCT GTGCTTTTGAGGA CC
	181
cg42908571 630	cg43942050
09	19

m	၉	10
0		0
Human Gene SWISSNEW- ID:P42336 PHOSPHATIDYLINOSITOL 3- KINASE CATALYTIC SUBUNIT, ALPHA ISOFORM (EC 2.7.1.137) (PI3-KINASE P110 SUBUNIT ALPHA) (PTDINS-3-KINASE P110) (PI3K) - HOMO SAPIENS (HUMAN), 1068 aa. [pcls:SWISSPROT- ID:P42336 PHOSPHATIDYLINOSITOL 3- KINASE CATALYTIC SUBUNIT, ALPHA ISOFORM (EC 2.7.1.137) (PI3-KINASE P110 SUBUNIT ALPHA) (PTDINS-3-KINASE P110) (PI3K) - HOMO SAPIENS (HUMAN), 1068 aa.	Human Gene SPTREMBL- ID:Q63553 SNF1-RELATED KINASE - RATTUS NORVEGICUS (RAT), 746 aa.	Human Gene SWISSPROT- ID:Q04759 PROTEIN KINASE C, THETA TYPE (EC 2.7.1) (NPKC- THETA) - HOMO SAPIENS (HUMAN), 706 aa.
kinase	kinase	kinase
SILENT- CODING	SILENT- CODING	SILENT- CODING
⊕	Asp	Phe
<u>=</u>	Asp	Phe
⊢	-	-
O	ပ	U
TAAATATTCGAGA CATTGACAAGATI C/IJTATGTTCGAA CAGGTATCTACCA TG	AGATCTTTGAGGA C AGGGGAATCTGA[C/TJGATGAGTTTG ACATGGATGAGAA TC	TTCTGACGCACAT GTTTTGTACATT[C /T]CAGACCAAGGA AAACCTCTTTTTT G
1249	1693	1438
		cg43090990
62	63	64

21 (21q22.1)	X (Xq21.3)	1 (1921)
0	0	9.80E-308 1 (1q21)
Human Gene SWISSPROT- ID:Q13627 SERINE/THREONINE- SPECIFIC PROTEIN KINASE MINIBRAIN HOMOLOG (EC 2.7.1) (HP86) (DYRK) - HOMO SAPIENS (HUMAN), 763 aa.	Human Gene SWISSPROT- ID:Q06187 TYROSINE-PROTEIN KINASE BTK (EC 2.7.1.112) (BRUTON'S TYROSINE KINASE) (AGAMMAGLOBULINAEMIA TYROSINE KINASE) (ATK) (B CELL PROGENITOR KINASE) (BPK) - HOMO SAPIENS (HUMAN), 659 aa.	Human Gene SPTREMBL- ID:Q16715 PYRUVATE KINASE (EC 2.7.1.40) - HOMO SAPIENS (HUMAN), 587 aa (fragment).
kinase	kinase	kinase
SILENT- CODING	SILENT- CODING	SILENT- CODING
Lys	Cys	Arg
Lys	Cys	Arg
Ø	ပ	ပ
∢	⊢	⋖
TTAGTATCATTCA CTGTGATCTAAA(A /GJCCTGAAAATAT CCTTCTTTGTAAC C	AGGTATATACCAT CATGTACAGTTGIT /CJTGGCATGAGAA AGCAGATGAGCG TC	TGGCTCCGGCTA CACCAACATCATG [A/C]GGGTGCTAA GCATATCCTGAGA CGC
2339	2062	1744
cg43969763 2339	cg42879455	cg42659872
65	99	29

7 (7q21.3)	17	11 (20p13)
1.60E-220	3.80E-219	2.00E-215
Human Gene SWISSPROT- ID:Q16654 [PYRUVATE DEHYDROGENASE(LIPOAMIDE)] KINASE ISOZYME 4 PRECURSOR (EC 2.7.1.99) (PYRUVATE DEHYDROGENASE KINASE ISOFORM 4) - HOMO SAPIENS (HUMAN), 411 aa. Ipols:SPTREMBL- ID:Q16654 PYRUVATE DEHYDROGENASE KINASE ISOFORM 4 - HOMO SAPIENS (HUMAN), 411 aa.	Human Gene SWISSPROT- ID:Q15119 [PYRUVATE DEHYDROGENASE(LIPOAMIDE)] KINASE ISOZYME 2 PRECURSOR (EC 2.7.1.99) (PYRUVATE DEHYDROGENASE KINASE ISOFORM 2) - HOMO SAPIENS (HUMAN), 407 aa. pcls:SPTREMBL- ID:Q15119 PYRUVATE DEHYDROGENASE KINASE - HOMO SAPIENS (HUMAN), 407 aa.	Human Gene SWISSPROT- ID:P19138 CASEIN KINASE II, ALPHA CHAIN (CK II) (EC 2.7.1.37) - HOMO SAPIENS (HUMAN), AND BOS TAURUS (BOVINE), 391 aa.
kinase	kinase	kinase
SILENT- CODING	SILENT- CODING	SILENT- CODING
Ala	Arg	Thr
Ala	Arg	Thr
O	-	-
⋖	o	ပ
GCTTGCCAATTTC TCGTCTGTATGC[A/CJAAGTACTTTC AAGGAGATCTGAA TC	CTGTGGAGTACAT GTAGCTGAAGGI C/TJCGCTCAATCT TCCTCAAGGGAAC AC	ACATCATATTGGC GCTGCTGACGGGI C/TJGTACTGCCCC CTGGCATGCTAGA TG
1323	526	1448
		cg43917871
89	69	20

	1		
11 (20p13)	16		2
2.00E-215	7.80E-173	2.10E-154	7.90E-283
Human Gene SWISSPROT- ID:P19138 CASEIN KINASE II, ALPHA CHAIN (CK II) (EC 2.7.1.37) - HOMO SAPIENS (HUMAN), AND BOS TAURUS (BOVINE), 391 aa.	Human Gene SPTREMBL- ID:Q15599 TYROSINE KINASE ACTIVATOR PROTEIN 1 (TKA-1) - HOMO SAPIENS (HUMAN), 450 aa.	Human Gene SPTREMBL- ID:Q27467 SIMILARITY TO TYROSINE-PROTEIN KINASE - CAENORHABDITIS ELEGANS, 1280 aa.	kinaserecep Human Gene SWISSPROT- ID:004771 ACTIVIN RECEPTOR TYPE I PRECURSOR (EC 2.7.1-) (ACTR-I) (SERINE/THREONINE- PROTEIN KINASE RECEPTOR R1) (SKR1) (ACTIVIN RECEPTOR-LIKE KINASE 2) (ALK-2) (TGF-B SUPERFAMILY RECEPTOR TYPE I) (TSR-I) - HOMO SAPIENS (HUMAN), 509 aa.
kinase	kinase	kinase	kinaserecep tor
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
Ala	Ser	Asn	Ala
Ala	Ser	Asn	Ala
<u>σ</u>	∢	U	ပ
-	O	-	-
CAGTGTAGAAATA GGGGTGCTCCATI T/GJGCCTCTCTTG CAGTAAGCCGTG ACT	AGCTCAATGGTG GCTCTGCGTGCT C[G/A]TCCCGAAG TGACCTGCCTGGT TCCG	AATTCAACCCACT CATCTATGGCAA[T /C]GATGTGGATTC TGTGGATGTTGCA A	AGACCCGCCGT CCCCTGGCCAAG C[T/C]GTGGAGTG CTGCCAAGGGGA CTGGT
1526	912	1765	610
cg43917871	cg44131752		cg44025829
74	72	73	47

ဖ	6 (6p21.3)	(E.	6 (6p21.3)	6 (6p21.3)
1.20E-247	9.10E-147	3.70E-134	3.70E-134	3.70E-134 6
Human Gene SPTREMBL- ID:Q02646 MHC BINDING PROTEIN 2 - HOMO SAPIENS (HUMAN), 2500 aa.	Human Gene Homologous to SWISSPROT-ID:P28068 CLASS II HISTOCOMPATIBILITY ANTIGEN, M BETA CHAIN PRECURSOR - HOMO SAPIENS (HUMAN), 263 aa.	Human Gene Homologous to SWISSPROT-ID:P06340 HLA CLASS II HISTOCOMPATIBILITY ANTIGEN, DZ ALPHA CHAIN PRECURSOR (MHC DN-ALPHA) - HOMO SAPIENS (HUMAN), 250 aa.	Human Gene Homologous to SWISSPROT-ID:P06340 HLA CLASS II HISTOCOMPATIBILITY ANTIGEN, DZ ALPHA CHAIN PRECURSOR (MHC DN-ALPHA) - HOMO SAPIENS (HUMAN), 250 aa.	Human Gene Homologous to SWISSPROT-ID:P06340 HLA CLASS II HISTOCOMPATIBILITY ANTIGEN, DZ ALPHA CHAIN PRECURSOR (MHC DN-ALPHA) - HOMO SAPIENS (HUMAN), 250 aa.
WHC	MHC	МНС	МНС	MHC
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
Pro	Leu	ren	Leu	Leu
Pro	ren	ren	ren [Fen	Leu
4	⋖	<u>ග</u>	∢	∢
o	ပ	A	9	9
CTCACGCTTTGCA GTCATCTGGTCC[G/A]CCTAGCACTC CCTCCTCCTCG GC	TTAACACGAGGGA GCCTGTGATGCTI G/AJGCCTGCTATG TGTGGGGCTTCTA TC	CCCCTGTGATCAA TATCACCTGGCT[A/G]CGCAACGGC CAAACTGTCACTG AGG	CACCACCAGATG CCATGGAGACCC TIG/A]GTCTGTGC CCTGGGCCTGGC CATCG	CCATGGAGACCC TGGTCTGTGCCCT [G/A]GGCCTGGCC ATCGGCCTGGTG GGCT
1107	632	644	857	698
cg43318277 1107	cg43966144			cg42686658
75	92	77	78	79

6 (6p21.3)	6 (6p21.3)	6 (6p21.3)	19	19
3.70E-134 6	3.70E-134	3.70E-134 6	1.80E-113	1.80E-113
Human Gene Homologous to SWISSPROT-ID:P06340 HLA CLASS II HISTOCOMPATIBILITY ANTIGEN, DZ ALPHA CHAIN PRECURSOR (MHC DN-ALPHA) - HOMO SAPIENS (HUMAN), 250 aa.	Human Gene Homologous to SWISSPROT-ID:P06340 HLA CLASS II HISTOCOMPATIBILITY ANTIGEN, DZ ALPHA CHAIN PRECURSOR (MHC DN-ALPHA) - HOMO SAPIENS (HUMAN), 250 aa.	Human Gene Homologous to SWISSPROT-ID:P06340 HLA CLASS II HISTOCOMPATIBILITY ANTIGEN, DZ ALPHA CHAIN PRECURSOR (MHC DN-ALPHA) - HOMO SAPIENS (HUMAN), 250 aa.	Human Gene Homologous to SPTREMBL-ID:Q95368 HLA CLASS I INHIBITORY NK RECEPTOR - HOMO SAPIENS (HUMAN), 455 aa.	Human Gene Homologous to SPTREMBL-ID:Q95368 HLA CLASS I INHIBITORY NK RECEPTOR - HOMO SAPIENS (HUMAN), 455 aa.
WHC WHC	МНС	мнс	MHC	MHC
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
<u>e</u>	o o o	Gly	Pro	Glu
<u> </u>	o Sig	Gly	Pro	Olu Glu
-	o	⊢	-	⋖
O	O	O.	⋖	ဖ
TGGTCTGTGCCCT GGGCCTGGCCATI C/TJGGCCTGGTG GGCTTCCTCGTG GGCA	TGGCCTGGCCA TCGGCCTGGTGG G[C/G]TTCCTCGT GGGCACCGTCCT CATCA	TCGGCCTGGTGG GCTTCCTCGTGG G[C/T]ACCGTCCT CATCATCATGGGC ACAT	GTTTCCTCATTAG CCCTGTGACCCC[ATJGCACACGCAG GGACCTACAGAT GTC	TTGACATCTACCA TCTATCCAGGGA[G/A]GGGGAAGCC CATGAACTTAGGC TCC
881	893	905	279	492
cg42686658 881	cg42686658		cg38337333	cg38337333
80	81	85	83	84

19	19		20	3 (3p24)
1.80E-113 19	1.80E-113	1.80E-113	0	0
Human Gene Homologous to SPTREMBL-ID:Q95368 HLA CLASS I INHIBITORY NK RECEPTOR - HOMO SAPIENS (HUMAN), 455 aa.	Human Gene Homologous to SPTREMBL-ID:Q95368 HLA CLASS I INHIBITORY NK RECEPTOR - HOMO SAPIENS (HUMAN), 455 aa.	Human Gene Homologous to SPTREMBL-ID:Q95368 HLA CLASS I INHIBITORY NK RECEPTOR - HOMO SAPIENS (HUMAN), 455 aa.	misc_chann Human Gene SPTREMBL- ID:Q14193 H-DRK1 K(+) CHANNEL - HOMO SAPIENS (HUMAN), 858 aa.	misc_chann Human Gene SPTREMBL- ID:Q14524 SODIUM CHANNEL ALPHA SUBUNIT - HOMO SAPIENS (HUMAN), 2016 aa.
MHC	MHC	MHC	misc_chann el	misc_chann el
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
Thr	Phe	Leu	<u>т</u>	Cys
Thr	Phe	Leu	Thr	Cys
⋖	—	U	⊢	F
<u> </u>	O	⊢	ပ	U
CTTCTAGTAGTTG GCCTTCACCCACI T/AJGAACCAAGCT TCAAAACTGGTAT CG	GGTACTCAGTGG CCATCATCCTT[C/TJACCATCCTTC CCTTCTTTCTCCT TC	TGGCCATCATCCT CTTCACCATCCT[T /CJCCCTTCTTTCT CCTTCATCGCTGG	AGGAGCTCAAGC GTGAGGCCGAGA C[C/T]CTACGGGA GCGGGAAGGCGA GGAGT	TCATGGGCAACCT AAGGCACAAGTGI C/TJGTGCGCAACT TCACAGCGCTCAA CG
669	774	783	649	066
cg38337333 699	cg38337333	cg38337333	cg43984759	cg39660131
85	98	87	88	68

	T		
19 (19q13.1)			8 (8p11.2)
2.20E-113 19 (19)	7.90E-79	7.90E-79	6.10E-70
misc_chann Human Gene Homologous to SWISSPROT-ID:Q07699 SODIUM CHANNEL BETA-1 SUBUNIT PRECURSOR - HOMO SAPIENS (HUMAN), 218 aa. [pcls:TREMBLNEW-ID:G2804300 VOLTAGE-GATED SODIUM CHANNEL BETA-1 SUBUNIT - HOMO SAPIENS (HUMAN), 218 aa.	misc_chann Human Gene Similar to SPTREMBL- 7.90E-79 el ID:P91197 SIMILAR TO LIGAND- GATED IONIC CHANNEL PROTEIN - CAENORHABDITIS ELEGANS, 461 aa.	misc_chann Human Gene Similar to SPTREMBL- 7.90E-79 el	misc_chann Human Gene Similar to SPTREMBL- 6.10E-70 ID:P91197 SIMILAR TO LIGAND- GATED IONIC CHANNEL PROTEIN - CAENORHABDITIS ELEGANS, 461 aa.
misc_chann el	misc_chann el	misc_chann el	misc_chann el
SILENT.	SILENT- CODING	SILENT- CODING	SILENT- CODING
n _E	Asp	Cys	Pro
Oin	Asp	Cys	Pro
ပ		 	U
«	O	U	∢
CGGAATACCTGG CCATCACCTCTGA [A/G]AGCAAAGAG AACTGCACGGGC GTCC	AGAGTGGCGAGT GGGTCATCGTGG A[C/T]GCCGTGGG CACCTACAACACC AGGA	ACAACACCAGGAA C GTACGAGTGCTG[C/T]GCCGAGATCT ACCCGGACATCA CCT	AGAGGCTCTTTCT GCAGAAACTTCC[A/CJAAATTACTTT GCATGAAAGATCA TG
717	870	606	1160
cg44963814 717	cg21413267	cg21413267	cg3000465
06	91	92	66

11 (11q22)	11 (11q22)		14 (14q24)
0	0	1.10E-115	0
Human Gene SWISSNEW- ID:P06401 PROGESTERONE RECEPTOR (PR) - HOMO SAPIENS (HUMAN), 933 aa. pcls:SWISSPROT-ID:P06401 PROGESTERONE RECEPTOR (PR) - HOMO SAPIENS (HUMAN), 933 aa.	Human Gene SWISSNEW- ID:P06401 PROGESTERONE RECEPTOR (PR) - HOMO SAPIENS (HUMAN), 933 aa. pcls:SWISSPROT-ID:P06401 PROGESTERONE RECEPTOR (PR) - HOMO SAPIENS (HUMAN), 933 aa.	Human Gene Homologous to SWISSPROT-ID:P07992 DNA EXCISION REPAIR PROTEIN ERCC-1 - HOMO SAPIENS (HUMAN), 297 aa.	Human Gene SPTREMBL- ID:Q99907 LATENT TRANSFORMING GROWTH FACTOR-BETA-BINDING PROTEIN- 2 - HOMO SAPIENS (HUMAN), 1821 aa.
nucl_recpt	nucl_recpt	nuclease	oncogene
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
<u>로</u>	uo	Asn	Thr
<u>π</u>	<u>ui</u>	Asn	Thr
 -	ပ	9	9
O	⋖	٧	4
GTCTAGGATGGA GATCCTACAAACA [C/T]GTCAGTGGG CAGATGCTGTATT TTG	ATAACTTGCATGA TCTTGTCAAACA[A /GJCTTCATCTGTA CTGCTTGAATACA T	TTACGTCGCCAAA TTCCCAGGGCAC[A/G]TTGCGCACGA ACTTCAGTACGGG	TCCCTGTGACCCA GGCAGGTGCATG[A/G]GTGACACTGG TCGTGACCTGGC CAG
3766	4114	713	4226
cg30421838 3766		cg43947341	cg43939230
94	95	96	26

10	22 (22q11)	(52)	
3.70E-182 10	2.40E-84	2.80E-287	2.40E-155
Human Gene SWISSPROT- ID:P31314 HOMEOBOX PROTEIN HOX-11 (TCL-3 PROTO- ONCOGENE) - HOMO SAPIENS (HUMAN), 330 aa.	Human Gene Similar to SWISSPROT-ID Q64010 PROTO- ONCOGENE C-CRK (P38) (ADAPTER MOLECULE CRK) - MUS MUSCULUS (MOUSE), 304 aa.	Human Gene SWISSPROT- ID:P19878 NEUTROPHIL CYTOSOL FACTOR 2 (NCF-2) (NEUTROPHIL NADPH OXIDASE FACTOR 2) (P67- PHOX) - HOMO SAPIENS (HUMAN), 526 aa.	phosphoryla Human Gene SWISSPROT- se ID:P00491 PURINE NUCLEOSIDE PHOSPHORYLASE (EC 2.4.2.1) (INOSINE PHOSPHORYLASE) (PNP) - HOMO SAPIENS (HUMAN), 289 aa.
оисодене	oncogene	oxidase	phosphoryla se
SILENT- CODING	SILENT.	SILENT- CODING	SILENT- CODING
Ala	<u>=</u>	Leu	Pro
Ala	<u>e</u>		Pro
<u> </u>	-	⊢	Α
<u>ن</u>	U	U	9
CGGCACACAGGC C C CGCTCGCCGGAG C(C/T)GTGGCCCA CCCCCAGCCCCT GGCCCT	AGAACTCGCGGG TCTCCCACTACAT[C/T]ATCAACTCGC TGCCCAACCGCC GTT	CTGCAACTACCTT GAACCAGTTGAG[C/TJTGCGGATCCA CCCTCAGCAGCA GCC	CAGCATGACCTG GCACTGTACTTCG [G/A]GGAAAGTTG GGGATTTCACCGT AGT
	742	693	1310
cg42674136 1447	cg41972699	cg42849556	cg43996195
86	6	100	101

	2
2.40E-155	5.40E-62
phosphoryla Human Gene SWISSPROT- se ID:P00491 PURINE NUCLEOSIDE PHOSPHORYLASE (EC 2.4.2.1) (INOSINE PHOSPHORYLASE) (PNP) - HOMO SAPIENS (HUMAN), 289 aa.	Human Gene Similar to SWISSNEW- 5.40E-62 ID:P53999 ACTIVATED RNA POLYMERASE II TRANSCRIPTIONAL COACTIVATOR P15 (PC4) (P14) - HOMO SAPIENS (HUMAN), 126 aa. pcls:SWISSPROT-ID:P53999 ACTIVATED RNA POLYMERASE II TRANSCRIPTIONAL COACTIVATOR P15 (PC4) (P14) - HOMO SAPIENS (HUMAN), 126 aa.
phosphoryla se	polymerase
SILENT- CODING	SILENT- CODING
H.	<u>=</u>
ž Š	<u>=</u>
∢	—
ڻ ص	4
TTGCAACTTGAGG G TCGGTGCTTAGT[G/A]TGAGACAGAA GCCATTCTGCAGT GT	TTTACAGTTTTCTT A ACTGCATCATC[A/ TJATGTCAGAAATC TGTTCCTTCAGCT
1421	372
cg43996195 1421	cg43948227 372
102	103

	_		_			_	_				_		_				_		
4.40E-241												,							
potassium Human Gene SWISSNEW-	ID:P48050 INWARD RECTIFIER	POTASSIUM CHANNEL 4	(POTASSIUM CHANNEL,	INWARDLY RECTIFYING,	SUBFAMILY J, MEMBER 4)	(HIPPOCAMPAL INWARD	RECTIFIER) (HIR) (HRK1) (HIRK2)	(KIR2.3) - HOMO SAPIENS	(HUMAN), 445	aa.lpcls:SWISSPROT-ID:P48050	INWARD RECTIFIER POTASSIUM	CHANNEL 4 (POTASSIUM	CHANNEL, INWARDLY	RECTIFYING, SUBFAMILY J,	MEMBER 4) (HIPPOCAMPAL	INWARD RECTIFIER) (HIR) (HRK1)	(HIRK2) (KIR2.3) - HOMO SAPIENS	(HUMAN), 445 aa.	
potassium	channel																		
SILENT-	CODING		•																
Ser																			
Ser																			
9																			
٧																			
AGAGCCACTACAA A	GGTGGACTACTC	AGICGTTTTCACA	AGACCTACGAGG	TGG															
cg43333426 1302)																		
104																			

95	2	14 (14q32.1)
1.60E-227 16	1.20E-208	4.40E-83
Human Gene SWISSPROT- ID:P48051 G PROTEIN-ACTIVATED INWARD RECTIFIER POTASSIUM CHANNEL, INWARDLY RECTIFYING, SUBFAMILY J, MEMBER 6) (KATP-2) (BIR1) (KIR3.2) - HOMO SAPIENS (HUMAN), 423 aa. pcls:TREMBLNEW-ID:G1518526 INWARDLY RECTIFYING POTASSIUM CHANNEL KIR3.2 - HOMO SAPIENS (HUMAN), 423 aa.	proteaseinhi Human Gene SWISSPROT- b ID:P07093 GLIA DERIVED NEXIN PRECURSOR (GDN) (PROTEASE NEXIN I) (PN-1) (PROTEASE INHIBITOR 7) - HOMO SAPIENS (HUMAN), 398 aa.	proteaseinhi Human Gene Similar to SWISSPROT-ID:P17475 ALPHA-1- ANTIPROTEINASE PRECURSOR (ALPHA-1-ANTITRYPSIN) (ALPHA- 1- PROTEINASE INHIBITOR) - RATTUS NORVEGICUS (RAT), 411
channel	proteaseinhi b	proteaseinhi b
SILENT. CODING	SILENT- CODING	SILENT
Asp	\alpha al	Thr
Asp	Val	Ħ H
U	ပ	
⊢	U	O
TCACACCTGTCCT GACCCTGGAGGA[T/C]GGGTTCTACG AAGTTGACTACAA CA	GCAGGATCACCT GCACCCTCTTGG G[C/G]ACCATGAT GCTCATCCAGCTG TCTA	AGTCAGACACCA GCTTAGAAATGAC [C/T]ATGGGCAAT GCCTTGTTTCTTG ATG
1683	1081	624
cg43051431 1683	cg43920929	cg43059041
105	106	107

3 (3p)	17		20 (20q12)	_®
2.90E-260 3 (3p)	1.40E-180	2.40E-114	1.50E-80	8.30E-58
Human Gene SPTREMBL- ID:Q92777 SYNAPSIN IIB - HOMO SAPIENS (HUMAN), 478 aa.	Human Gene SPTREMBL- ID:Q28686 50-KDA DYSTROPHIN- ASSOCIATED GLYCOPROTEIN PRECURSOR - ORYCTOLAGUS CUNICULUS (RABBIT), 387 aa.	Human Gene Homologous to TREMBLNEW-ID:G1703715 PANTOPHYSIN=SYNAPTOPHYSIN HOMOLOG - MUS SP, 261 aa.	Human Gene Similar to SWISSPROT-ID:P02585 TROPONIN C, SKELETAL MUSCLE - HOMO SAPIENS (HUMAN), 159 aa.	Human Gene Similar to SWISSPROT-ID:P02535 KERATIN, TYPE I CYTOSKELETAL 10 (CYTOKERATIN 10) (56 KD CYTOKERATIN) (KERATIN, TYPE I CYTOSKELETAL 59 KD) - MUS MUSCULUS (MOUSE), 569 aa.
struct	struct	struct	struct	struct
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
Leu	Olu Olu	Leu	Thr	Arg
ne n	n ©		Thr	Arg
⊢	⋖	<u>ග</u>	⋖	<u>ပ</u>
O	<u>ග</u>	∢	ပ	ပ
GGAGGACAGGCA ACTCATCACCGAA [C/T]TAGTCATCAG CAAGATGAACCAG CT	ACCCGTTCTTCTG CCCACCCACTGA[G/A]GCCCCAGAC CGTGACTTCTTGG TGG	TCTGGAAGCCGG ACATCCTCTGAGC [A/G]AGTCGACTG ATCCGCTGGCGA	TCATCAGAGATTC GATCTCCTCGTC[C/A]GTCACGTGCT CCCGGAGGCCC TGA	GCTTTGAGGAGG AGGCGCGGGTTGC G[C/G]GACGACAC TGAGGCGGCCAT CCGCG
1385	1002	2160	497	788
cg40148056	cg42894986	cg43961212	cg42898003	cg43960684
108	109	110	111	112

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Human Gene Similar to SPTREMBL- 9.20E-83 ID:Q42761 SQUALENE SYNTHASE (EC 2.5.1.21) (FARNESYL- DIPHOSPHATE FARNESYLTRANSFERASE) (FARNESYLTRANSFERASE) (FRESQUALENE-DI- DIPHOSPHOSPHATE SYNTHASE) - GLYCYRRHIZA GLABRA, 412 aa.	Human Gene Similar to SWISSNEW- 7.70E-79 ID:P39062 ACETYL-COENZYME A SYNTHETASE (EC 6.2.1.1) (ACETATECOA LIGASE) (ACYL- ACTIVATING ENZYME) (ACETYL- COA SYNTHASE) - BACILLUS SUBTILIS, 572 aa. pcls:SWISSPROT-ID:P39062 ACETYL-COENZYME A SYNTHETASE (EC 6.2.1.1) (ACETATECOA LIGASE) (ACYL- ACTIVATING ENZYME) (ACETYL- COA SYNTHASE) - BACILLUS SUBTILIS, 572 aa.
synthase	synthase .
SILENT- CODING	SILENT- CODING
Leu	Ġi
Leu	Giy
U	H
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TTCGGAAAGGGC G AAGCAGTGACCCT [G/CJATGATGGAT GCCACCAATATGC CAG	ACACCCACAGCA GTTTGGTTTAGG[A/TJTTATCTGTAAA TGGAAGGTTCTG GC
1049	901
cg43958714 1049	cg43124627 901
113	4

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9.90E-70												J				
Human Gene Similar to SWISSNEW- 9.90E-70	ID:P53556 8-AMINO-7-	OXONONANOATE SYNTHASE (EC	2.3.1.47) (7-KETO-8-AMINO-	PELARGONIC ACID SYNTHETASE)	(7-KAP SYNTHETASE) (L-ALANINE-	-PIMELYL COA LIGASE) -	BACILLUS SUBTILIS, 389	aa. pcls: SWISSPROT-ID: P53556 8-	AMINO-7-OXONONANOATE	SYNTHASE (EC 2.3.1.47) (7-KETO-	8-AMINO- PELARGONIC ACID	SYNTHETASE) (7-KAP	SYNTHETASE) (L-ALANINE	PIMELYL COA LIGASE) - BACILLUS	SUBTILIS, 389 aa.	
synthase																
SILENT-	CODING															
Ala						<u>.</u>										
Ala																
⊢				_												
⋖																
TCTTCTCCAACAG A	TCTGCCACCCGC	A/TJGTCGTTGGCT	GCGCCTCCAAGG	222						-						
906															_	
cg43968419 906																
115																

7.40E-65	7.40E-65
Human Gene Similar to SWISSNEW- 7.40E-65 ID:P39062 ACETYL-COENZYME A SYNTHETASE (EC 6.2.1.1) (ACETATECOA LIGASE) (ACYL-ACTIVATING ENZYME) (ACETYL-COA SYNTHASE) - BACILLUS SUBTILIS, 572 aa.jpcis:SWISSPROT-ID:P39062 ACETYL-COENZYME A SYNTHETASE (EC 6.2.1.1) (ACETATECOA LIGASE) (ACYL-ACTIVATING ENZYME) (ACETYL-COA SYNTHASE) - BACILLUS SUBTILIS, 572 aa.	Human Gene Similar to SWISSNEW- ID:P39062 ACETYL-COENZYME A SYNTHETASE (EC 6.2.1.1) (ACETATECOA LIGASE) (ACYL- ACTIVATING ENZYME) (ACETYL- COA SYNTHASE) - BACILLUS SUBTILIS, 572 aa.lpcis:SWISSPROT-ID:P39062 ACETYL-COENZYME A SYNTHETASE (EC 6.2.1.1) (ACETATECOA LIGASE) (ACYL- ACTIVATING ENZYME) (ACETYL- COA SYNTHASE) - BACILLUS SUBTILIS, 572 aa.
synthase	synthase
SILENT. CODING	SILENT
ne-	Lys
Leu	Lys
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TTGTGGTCCTGGC G CTCGCAGTTCCT[G/AJTCCCATGACC CAGACCAGCTCAC CA	TCACAGGGAAAAT TCAACGAGCCAA[G/A]CTTCGAGGACA AGGAGTGGAAGA TGT
1	1622
cg43064068 1484	cg43064068
116	117

-	1		4	4
1.70E-241 11	1.70E-241	1.70E-241	1.60E-236	1.60E-236
Human Gene SWISSPROT- ID:P14416 D(2) DOPAMINE RECEPTOR - HOMO SAPIENS (HUMAN), 443 aa.	Human Gene SWISSPROT- ID: P14416 D(2) DOPAMINE RECEPTOR - HOMO SAPIENS (HUMAN), 443 aa.	Human Gene SWISSPROT- ID:P14416 D(2) DOPAMINE RECEPTOR - HOMO SAPIENS (HUMAN), 443 aa.	Human Gene SWISSPROT- ID:P25101 ENDOTHELIN-1 RECEPTOR PRECURSOR (ET-A) - HOMO SAPIENS (HUMAN), 427 aa.	Human Gene SWISSPROT- ID:P25101 ENDOTHELIN-1 RECEPTOR PRECURSOR (ET-A) - HOMO SAPIENS (HUMAN), 427 aa.
tm7	tm7	tm7	tm7	tm7
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
Ξ S Z	Leu	Pro	His Fis	O <u>l</u> n
i S E	Leu	Pro	T.S.	n G
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U	U	O	O	⋖
TGACTCTCCCCGA C CCCGTCCCACCA[C/TJGGTCTCCACA GCACTCCCGACA GCC	TCCGCAAGGCCTT CCTGAAGATCCTI C/TJCACTGCTGAC TCTGCTGCCTGCC	TCCTCGTCGCCAC C ACTGGTCATGCC[C/A]TGGGTTGTCT ACCTGGAGGTGG TAG	TTGCTCTTTGCTG CGTTCCTCTCA[CGTTTAAGCCGTATATTGAAGAAAACTGATGAAGAAAACTGATGAAGAAAACTGATGAAGAAACTGATGAAGAAACTGATGAAGAAACTAATGAAGAAAACTAATGAAGAAAACTAAAACTAAAAACTAAAAACTAAAAAAAA	TATTGAAGAAAAC TGTGTATAACGAĮA /GJATGGACAAGAA CCGATGTGAATTA C
1278	1662	909	1471	1507
cg41084924	cg41084924	cg41084924	cg43985000	cg43985000
118	119	120	121	122

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3.00E-212 X
Human Gene SWISSNEW- ID:P32247 BOMBESIN RECEPTOR SUBTYPE-3 (BRS-3) - HOMO SAPIENS (HUMAN), 399 aa, pcls:SWISSPROT-ID:P32247 BOMBESIN RECEPTOR SUBTYPE- 3 (BRS-3) - HOMO SAPIENS (HUMAN), 399 aa, pcls:TREMBLNEW-ID:E1240254 BOMBESIN RECEPTOR SUBTYPE- 3 (UTERINE BOMBESIN RECEPTOR, BRS-3) - HOMO SAPIENS (HUMAN), 399 aa.
tm7
SILENT- CODING
Tyr

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ATTCCTTGATTGC TAGGACCCTTTA[C/TJAAAAGCACCC TGAACATACCTAC TG
1263
cg3003519
124

×	12 (14q32.1)	19 (19q13.3)	19 (19q13.3)
3.00E-212 X	9.00E-211	8.30E-208	8.30E-208
Human Gene SWISSNEW- ID:P32247 BOMBESIN RECEPTOR SUBTYPE-3 (BRS-3) - HOMO SAPIENS (HUMAN), 399 aa.lpcls:SWISSPROT-ID:P32247 BOMBESIN RECEPTOR SUBTYPE- 3 (BRS-3) - HOMO SAPIENS (HUMAN), 399 aa.lpcls:TREMBLNEW-ID:E1240254 BOMBESIN RECEPTOR SUBTYPE- 3 (UTERINE BOMBESIN RECEPTOR, BRS-3) - HOMO SAPIENS (HUMAN), 399 aa.	Human Gene SWISSPROT- ID:P30411 B2 BRADYKININ RECEPTOR (BK-2 RECEPTOR) - HOMO SAPIENS (HUMAN), 391 aa.	Human Gene SWISSPROT- ID:P43119 PROSTACYCLIN RECEPTOR (PROSTANOID IP RECEPTOR) (PGI RECEPTOR) - HOMO SAPIENS (HUMAN), 386 aa.	Human Gene SWISSPROT- ID:P43119 PROSTACYCLIN RECEPTOR (PROSTANOID IP RECEPTOR) (PGI RECEPTOR) - HOMO SAPIENS (HUMAN), 386 aa.
tm7	tm7	tm7	tm7
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
/ iō	Tyr	Ser	\Sal
Ġļ y	Tyr	Ser	Val
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O	O	ပ	ပ
CTTATGCTGTGAT CATTTCAGTGGG[C/JATCCTTGGAA ATGCTATTCTCAT CA	TCCGAAAGAAGTC C TTGGGAGGTGTA C/TJCAGGGAGTGT GCCAGAAAGGGG GCT	AGACACCCTTTC CCAGCTCGCCTC[C/A]GGGAGGAGG GACCCAAGGGCC CCCT	GCCCCTCGGCCT TCGCGGTGCTGG T[C/G]ACCGGACT GGCGGCCACCGA
711	1182	1097	272
cg3003519	cg43969010	cg43263108	cg43263108
125	126	127	128

8 (8q11.2)	8 (8q11.2)	(2)		1p36.1)
<u>8</u> <u>8</u> <u>8</u>		4	ω	<u> </u>
2.10E-204 8 ((i	2.10E-204	2.10E-204	1.40E-196	2.10E-195
2	7	%	7.	2
Human Gene SWISSPROT- ID:P41145 KAPPA-TYPE OPIOID RECEPTOR (KOR-1) - HOMO SAPIENS (HUMAN), 380 aa.	Human Gene SWISSPROT- ID:P41145 KAPPA-TYPE OPIOID RECEPTOR (KOR-1) - HOMO SAPIENS (HUMAN), 380 aa.	Human Gene SWISSPROT- ID:P41145 KAPPA-TYPE OPIOID RECEPTOR (KOR-1) - HOMO SAPIENS (HUMAN), 380 aa.	Human Gene TREMBLNEW- ID:G2736282 G PROTEIN COUPLED RECEPTOR - HOMO SAPIENS (HUMAN), 362 aa.	Human Gene SWISSPROT- ID:P41143 DELTA-TYPE OPIOID RECEPTOR (DOR-1) - HOMO SAPIENS (HUMAN), 372 aa.
tm7	tm7	tm7	tm7	tm7
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
Ala	<u>e</u>	Pro	Ser	S ig
Ala	<u>e</u>	Pro	Ser	o Sign
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∢	ပ	_ව	4	U
CCAGACTGGTCCT A GGTGGTGGTGCC[A/G]GTCTTCGTCG TCTGCTGGACTCC CA	CAGCACTCACCAT GGAATCCCCGAT[C/TJCAGATCTTCC GCGGGGAGCCGG GCC	CGATCCAGATCTT CCGCGGGGGAGCC [G/T]GGCCCTACC TGCGCCCCGAGC	TGGATCTGCACCT A CTTCGACTACTC A CTTCGACTACTC A ACTTCTCGGACAT CA	CGCTGCACCTGT GCATCGCGCTGG G[C/T]TACGCCAAT AGCAGCCTCAAC CCCG
1220	392	413	155	1154
cg43267238 1220	cg43267238	cg43267238	cg43264978	cg3001696
129	130	131	132	133

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1 (1p36.1)	1 (1p31.2)			
2.10E-195	3.10E-194	1.10E-173 📑	2.50E-160	2.50E-160
Human Gene SWISSPROT- ID:P41143 DELTA-TYPE OPIOID RECEPTOR (DOR-1) - HOMO SAPIENS (HUMAN), 372 aa.	Human Gene SWISSPROT- ID:P43115 PROSTAGLANDIN E2 RECEPTOR, EP3 SUBTYPE (PROSTANOID EP3 RECEPTOR) (PGE RECEPTOR, EP3 SUBTYPE) - HOMO SAPIENS (HUMAN), 390 aa.	Human Gene SWISSPROT- ID:P30542 ADENOSINE A1 RECEPTOR - HOMO SAPIENS (HUMAN), 326 aa.	Human Gene TREMBLNEW- ID:E1246031 OLFACTORY RECEPTOR - HOMO SAPIENS (HUMAN), 312 aa.	Human Gene TREMBLNEW- ID:E1246031 OLFACTORY RECEPTOR - HOMO SAPIENS (HUMAN), 312 aa.
tm7	tm7	tm7	tm7	tm7
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
Gly	ren	Val	Thr	Gly
Gly		\ \ \	Thr	Gly
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ပ	O	ပ	⋖	—
TGGCTGTGACCC GTCCCCGGGACG G[G/T]GCAGTGGT GTGCATGCTCCA GTTCC	TGGCCTTCCCGAT C CACCATGCTGCT[C/GJACTGGTTTCG TGGCCAACGCAC TGG	GGGATGCCACCT TCTGCTTCATCGT[C/GJTCGCTGGCG GTGGCTGATGTG GCCG	CCATCTCCTTCTG A TGGCTGTCTCAC[A/G]CAGATGTATT TCGTTTTCATGTT CG	GGTGGAAAGCCT TCTCCACCTGTGG [I/CJTCTCACCTGG CTGTGGTTCTCCT CT
815	407	347	358	787
cg3001696	cg42704646	cg43326635	cg3003708	cg3003708
134	135	136	137	138

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2.50E-160	1.90E-153	2.10E-67	2.10E-67	2.10E-67
Human Gene TREMBLNEW- ID:E1246031 OLFACTORY RECEPTOR - HOMO SAPIENS (HUMAN), 312 aa.	Human Gene SWISSPROT- ID:Q15062 OLFACTORY RECEPTOR-LIKE PROTEIN FAT11 - HOMO SAPIENS (HUMAN), 316 aa.	Human Gene Similar to SWISSPROT-ID:P30975 TACHYKININ-LIKE PEPTIDES RECEPTOR 99D (DTKR) - DROSOPHILA MELANOGASTER (FRUIT FLY), 519 aa.	Human Gene Similar to SWISSPROT-ID:P30975 TACHYKININ-LIKE PEPTIDES RECEPTOR 99D (DTKR) - DROSOPHILA MELANOGASTER (FRUIT FLY), 519 aa.	Human Gene Similar to SWISSPROT-ID:P30975 TACHYKININ-LIKE PEPTIDES RECEPTOR 99D (DTKR) - DROSOPHILA MELANOGASTER (FRUIT FLY), 519 aa.
tm7	tm7	tm7	tm7	tm7
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
Phe	Ser	Leu	His Sign	<u>n</u>
Phe	Ser	ne_	<u>≅</u> ¥	ug Ug
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ACAGCACCATCAT TGCTGTGTATTIT /CJAACCCTCTGTC CTCCCACTCAGCT G	ACTCTCCAATGTA CTTTTCCTCTC[C /IJAACCTCTCCTT CTTGGACCTCTGC	GACATCAGGCGC ACGGTGCCAACC T[c/G]CGCCATCT GCAGGCCAAGAA GAAGT	AGGCGCACGGTG CCAACCTCCGCC A[T/C]CTGCAGGC CAAGAAGAAGTTT GTGA	CAGCCTTCTCCAT GCCCAGCTGGCA[GA]CTGGCACTGT GGGCACCAGCCT ACC
841	537	717	723	96
cg3003708	cg36729339	cg38841806	cg38841806	cg38841806
139	140	141	142	143

5 (5q32)	5 (5q32)	(6)	15
2.00E-58	2.00E-58	2.20E-207	9.00E-179 15
Human Gene Similar to SWISSPROT-ID:Q24563 DOPAMINE RECEPTOR 2 - DROSOPHILA MELANOGASTER (FRUIT FLY), 539 aa.	Human Gene Similar to SWISSPROT-ID:Q24563 DOPAMINE RECEPTOR 2 - DROSOPHILA MELANOGASTER (FRUIT FLY), 539 aa.	Human Gene SWISSPROT- ID:P26022 PENTAXIN-RELATED PROTEIN PTX3 PRECURSOR (TUMOR NECROSIS FACTOR- INDUCIBLE PROTEIN TSG-14) - HOMO SAPIENS (HUMAN), 381 aa.	transcriptfac Human Gene SWISSPROT- ID:Q06545 GA BINDING PROTEIN BETA-2 CHAIN (GABP-BETA-2 SUBUNIT) (TRANSCRIPTION FACTOR E4TF1-47) (GAPBP2) - HOMO SAPIENS (HUMAN), 347 aa.
tm7	tm7	tnf	transcriptfac tor
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
Leu	Arg	O O	Lys
Leu	Arg	P.0	Lys
4	∢		Ø
O	U	٧	⋖
CCTGTGCTGATCT G GGTCATGGGCCT[G/A]GCAGTGGTG CCCTTTGGGGCC GCCC	CTTGCCCATTCAG C ATGCACTGGTAC[C/A]GGGCCACCC ACCAGGAAGCCA	TTGGAAGCGTGC ATCCAGTGAGACC [ATJATGAGGCTTG AGTCTTTTAGTGC CT	GTGTGAGCAGAG ATGCCAGAACCAA [A/G]GTGGACCGA ACACCATTACATA TGG
1966	2237	289	376
cg43040273 1966	cg43040273 2237	cg43336100	cg21646034
144 4	145	146	147

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5.30E-245	6.50E-192
Human Gene SWISSPROT- ID:P39656 DOLICHYL- DIPHOSPHOOLIGOSACCHARIDE PROTEIN GLYCOSYLTRANSFERASE 48 KD SUBUNIT PRECURSOR (EC 2.4.1.119) (OLIGOSACCHARYL TRANSFERASE 48 KD SUBUNIT) (DDOST 48 KD SUBUNIT) (KIAA0115) (HA0643) - HOMO SAPIENS (HUMAN), 456 aa.	Human Gene SWISSPROT- ID:P16442 FUCOSYLGLYCOPROTEIN ALPHA- N- ACETYLGALACTOSAMINYLTRANS FERASE (EC 2.4.1.40) (HISTO- BLOOD GROUP A TRANSFERASE) (A TRANSFERASE) / FUCOSYLGLYCOPROTEIN 3- ALPHA- GALACTOSYLTRANSFERASE (EC 2.4.1.37) (HISTO-BLOOD GROUP B TRANSFERASE) (B TRANSFERASE) (B TRANSFERASE) (B SAPIENS (HUMAN), 354 aa.
transferase	transferase
SILENT- CODING	SILENT- CODING
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QI X	돈
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⋖	∢
TGGCAGCTACCA / GCACACTGCTC C[A/G]CCGTCAAT AAAGGCACTGATGGTCT	TGGCTCCCATTGT CTGGGAGGGCAC[A/G]TTCAACATCG ACATCCTCAACGA GC GC
	294
cg43916882 1608	cg2537639
148	149

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9 (9q34										1						
6.50E-192 9 (9q34)												,				
SILENT- transferase Human Gene SWISSPROT-	ID:P16442	FUCOSYLGLYCOPROTEIN ALPHA-	Ż	ACETYLGALACTOSAMINYLTRANS	FERASE (EC 2.4.1.40) (HISTO-	(BLOOD GROUP A TRANSFERASE)	(A TRANSFERASE) /	FUCOSYLGLYCOPROTEIN 3-	ALPHA-	GALACTOSYLTRANSFERASE (EC	2.4.1.37) (HISTO-BLOOD GROUP B	TRANSFERASE) (B	TRANSFERASE) (NAGAT) - HOMO	SAPIENS (HUMAN), 354 aa.		
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SILENT-	CODING										_					
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ACGTGGACATGG	AGTTCCGCGACC	A[C/T]GTGGGCGT	GGAGATCCTGACT	၁၅၁၁					_							
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cg2537639 654)															
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6.50E-192 9 (9q34)												ţ				
transferase Human Gene SWISSPROT-	ID:P16442	FUCOSYLGLYCOPROTEIN ALPHA-	ż	ACETYLGALACTOSAMINYLTRANS	FERASE (EC 2.4.1.40) (HISTO-	BLOOD GROUP A TRANSFERASE)	(A TRANSFERASE) /	FUCOSYLGLYCOPROTEIN 3-	ALPHA-	GALACTOSYLTRANSFERASE (EC	2.4.1.37) (HISTO-BLOOD GROUP B	TRANSFERASE) (B	TRANSFERASE) (NAGAT) - HOMO	SAPIENS (HUMAN), 354 aa.		
transferase																
SILENT-	CODING															
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ACGTGGGCGTGG G	AGATCCTGACTCC	[G/A]CTGTTCGGC	ACCCTGCACCCC	GGCT												
678																
cg2537639	,															
151																
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9 (9q34)	
6.50E-192 9 (9q34)	
transferase Human Gene SWISSPROT- ID:P16442 FUCOSYLGLYCOPROTEIN ALPHA- N- ACETYLGALACTOSAMINYLTRANS FERASE (EC 2.4.1.40) (HISTO- BLOOD GROUP A TRANSFERASE) (A TRANSFERASE) / FUCOSYLGLYCOPROTEIN 3-	ALPHA-GALACTOSYLTRANSFERASE (EC 2.4.1.37) (HISTO-BLOOD GROUP B TRANSFERASE) (B TRANSFERASE) (NAGAT) - HOMO SAPIENS (HUMAN), 354 aa.
transferase	
SILENT- CODING	
Po	
Pro	
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O	
GGCCCCAGTCCC CAGGCCTACATCCC (C/T)AAGGACGAGGGGAGGAGGAGGAGGAGGAGGAGGAGGAGGA	
768	
cg2537639	
152	

9 (9q34)	16
6.50E-192 9 (9q34)	1.60E-117 16
transferase Human Gene SWISSPROT- ID:P16442 FUCOSYLGLYCOPROTEIN ALPHA- N- ACETYLGALACTOSAMINYLTRANS FERASE (EC 2.4.1.40) (HISTO- BLOOD GROUP A TRANSFERASE) (A TRANSFERASE) / FUCOSYLGLYCOPROTEIN 3- ALPHA- GALACTOSYLTRANSFERASE (EC 2.4.1.37) (HISTO-BLOOD GROUP B TRANSFERASE) (B TRANSFERASE) (B TRANSFERASE) (B TRANSFERASE) (NAGAT) - HOMO SAPIENS (HUMAN), 354 aa.	Human Gene Homologous to SWISSPROT-ID:P30711 GLUTATHIONE S-TRANSFERASE THETA 1 (EC 2.5.1.18) (CLASS- THETA) - HOMO SAPIENS (HUMAN), 239 aa.
transferase	transferase
SILENT- CODING	SILENT- CODING
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Геп	
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9	⋖
ACGAGAGCCACC G TGAACAAGTACCT [G/A]CTGCGCCAC AAACCCACCAAG GTGC	GGGGAGATACTG GCTCACCCAGGA A[A/C]ACAGGGAA CATCACCTTATGC CACA
927	732
cg2537639	cg44000740 732
153	154

13	(5p15.3)	-	
. 0	0	1.60E-259	4.40E-241
Human Gene SWISSPROT- ID:P30825 HIGH-AFFINITY CATIONIC AMINO ACID TRANSPORTER-1 (CAT-1) (CAT1) (SYSTEM Y+ BASIC AMINO ACID TRANSPORTER) (ECOTROPIC RETROVIRAL LEUKEMIA RECEPTOR HOMOLOG) (ERR) (ECOTROPIC RETROVIRUS RECEPTOR HOMOLOG) - HOMO SAPIENS (HUMAN), 629 aa.	Human Gene SWISSPROT- ID:001959 SODIUM-DEPENDENT DOPAMINE TRANSPORTER (DA TRANSPORTER) (DAT) - HOMO SAPIENS (HUMAN), 620 aa.	Human Gene SWISSPROT- ID:P11166 GLUCOSE TRANSPORTER TYPE 1, ERYTHROCYTE/BRAIN - HOMO SAPIENS (HUMAN), 492 aa.	Human Gene SPTREMBL- ID:Q14728 TETRACYCLINE TRANSPORTER-LIKE PROTEIN MRNA - HOMO SAPIENS (HUMAN), 455 aa.
transport	transport	transport	transport
SILENT. CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
Cys	Ser	Asp	Pro
Cys	Ser	Asp	Pro
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ACGCAGTGGCCG C TGGGCTCCCTCT G[C/T]GCTCTTTCC GCCAGTCTTCTAG GTT	CCATCGCCACGC TCCCTCTGTCCTC [A/G]GCCTGGGCC GTGGTCTTCTCA TCA	GATGGAACAGCT CCTCGGGTGTCTT [G/A]TCACTTTGGC TGGCTCCCCCT GCC	GCGCTGCTGGT GGATGGGTGGGC G[C/G]GGGGTGCA GCCTCCACCCCC
1185	1347	1719	1656
cg38869466 1185	cg40351913	cg43964039	cg43992017
-15 -25	156	157	158

m	16	16	17	2 (2q34)
	0		0	0
Human Gene SWISSNEW- ACC:Q15031 PROBABLE LEUCYL- TRNA SYNTHETASE, MITOCHONDRIAL PRECURSOR (EC 6.1.1.4) (LEUCINETRNA LIGASE) (LEURS) (KIAA0028) - Homo sapiens (Human), 903 aa.	Human Gene SPTREMBL- ACC:Q16084 P130 - HOMO SAPIENS (HUMAN), 1139 aa.	Human Gene SPTREMBL- ACC:Q16084 P130 - HOMO SAPIENS (HUMAN), 1139 aa.	Human Gene SWISSPROT- ACC:P42694 HYPOTHETICAL PROTEIN KIAA0054 - Homo sapiens (Human), 1942 aa.	Human Gene REMTREMBL- ACC:E1296438 SEQUENCE 28 FROM PATENT WO9727323 - UNIDENTIFIED, 1829 aa.
UNCLASSI	UNCLASSI FIED	UNCLASSI FIED	UNCLASSI FIED :	UNCLASSI FIED
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
Leu	Arg	Ala	S S	Ala
Leu	Arg	Ala	S S	Ala
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CGCCTGTAATGG CTGTGAACATGCT [C/TJACCCAGCAG GAGGTCCCTGTC GTTA	CATTGACTAGGG GCTGTGGGGGCA T[C/G]CGCCCAGG TGTCCTCCATCA GAGG	AGCAGGCCAAGA GAGATCTGTGGAA [C/T]GCATCTTGTT CCAGAATACCAGA TA	CGCTGGCATAGG ACATGGCGGGCT T[G/T]CCCCCCGC AGAGCTCTGGGG	AAATAACAAGGCA TTGAAGAATGGCI TAJGACGAGCGG AAAGACGAAGGA AAGG
1238	2875	3385	517	254
cg43948629 1238	cg43955093	cg43955093	cg43055918	cg43974592
159	160	161	162	163

22 (22q13.1)	3 (3q21)	7 (7p15)	
· •	0	0	0
UNCLASSI Human Gene SWISSPROT- ACC:P13866 SODIUM/GLUCOSE COTRANSPORTER 1 (NA(+)/GLUCOSE COTRANSPORTER 1) (HIGH AFFINITY SODIUM-GLUCOSE COTRANSPORTER) - Homo sapiens (Human), 664 aa.	Human Gene SWISSNEW- ACC:P00450 CERULOPLASMIN PRECURSOR (EC 1.16.3.1) (FERROXIDASE) - Homo sapiens (Human), 1065 aa.	Human Gene SWISSPROT- ACC:P41250 GLYCYL-TRNA SYNTHETASE (EC 6.1.1.14) (GLYCINETRNA LIGASE) (GLYRS) - Homo sapiens (Human), 685 aa.	Human Gene SWISSPROT- ACC:P02771 ALPHA- FETOPROTEIN PRECURSOR (ALPHA-FETOGLOBULIN) (ALPHA- 1- FETOPROTEIN) - Homo sapiens (Human), 609 aa.
UNCLASSI	UNCLASSI	UNCLASSI	UNCLASSI FIED
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
Asp	Lys	Ala	Olu Olu
Asp	Lys	Ala	Glu
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AAGGACGCAACG CTGCCACCATGG A[C/T]AGTAGCAC CTGGAGCCCCAA GACCA	TGAAAGTATTCAA TCCCAGAAGGAA[A/GJCTGGAATTTG CCCTTCTGTTTCT AG	GCTGGCGCACTG CTAGCCTCAGAG G[T/A]GCCAGCAC CTCCTCAGCCCC CGCGC	AAAACCAGCTACC A TGCCTTTCTGGA[AGGAACTTTGCC ATGAGAAGAAAT TT
206	2757	2472	481
cg43956384 206	cg44025634	cg43940037 2472	cg44024279
164	165	166	167

	cg43926814	1122	CATGAGTTTTGAT CCCAGCTCTTCTI C/JTCCCTGGCTT TCTGGGCCATTTC TC	ပ		Olu	Glu	SILENT- CODING	UNCLASSI FIED	Human Gene SWISSNEW- ACC:Q13573 NUCLEAR PROTEIN SKIP (SNW1 PROTEIN) (NUCLEAR RECEPTOR COACTIVATOR NCOA- 62) - Homo sapiens (Human), 536 aa.	5.00E-289 14	4
	cg40918088	1778	TTGGAGCTGGAAT TACTGTGTATGAJA /GJGCCTTAGCAGC TGCTGATGAGCTT T	4	ပ	Glu	ngo	SILENT- CODING	UNCLASSI FIED	Human Gene SWISSPROT-ACC:P51854 TRANSKETOLASE 2 (EC 2.2.1.1) (TK 2) (TRANSKETOLASE RELATED PROTEIN) - Homo sapiens (Human), 557 aa.	1.80E-287 X (Xq28)	X (Xq28)
10	cg43966985	1242	TCAACACCTACGT CCACTTCCAAGGI G/JAAGATGAAGG GCTTCTCCCTGCT GG	ပ	F	Qj y	Gly	SILENT- CODING	UNCLASSI	Human Gene SWISSPROT- ACC:P01019 ANGIOTENSINOGEN PRECURSOR - Homo sapiens (Human), 485 aa.	3.90E-257	(1942)
0	cg43924009	770	TGGCTTGCACAAA A TTGCTTGAAGAC! ATJCGATCCATGT AAGTGGACTGTCT TG	∢	—	Arg	Arg	SILENT- CODING	UNCLASSI	Human Gene SPTREMBL- ACC:043411 HYPOTHETICAL 49.3 KD PROTEIN - HOMO SAPIENS (HUMAN), 442 aa (fragment).	6.90E-239	
10	cg42913861	2186	CTGGGCAGCTGC CCTCACAGTAGTT [C/G]CCGTAGTAG CCGGTGGGTGCT ATGA	U	ပ	Gly	Oly Oly	SILENT- CODING	UNCLASSI	Human Gene SWISSPROT. ACC:P09529 INHIBIN BETA B CHAIN PRECURSOR (ACTIVIN BETA-B CHAIN) - Homo sapiens (Human), 407 aa.	3.00E-227 2 (2cen)	2 (2cen)

2 (2cen)	12	2	11 (11p15.5)
3.00E-227 2 (2cen)	2.40E-225	2.40E-225	2.10E-224 11 (1 (1
UNCLASSI Human Gene SWISSPROT- ACC:P09529 INHIBIN BETA B CHAIN PRECURSOR (ACTIVIN BETA-B CHAIN) - Homo sapiens (Human), 407 aa.	Human Gene SWISSPROT- ACC:P29080 (2'- 5')OLIGOADENYLATE SYNTHETASE 1B (EC 2.7.7) ((2- 5')OLIGO(A) SYNTHETASE 1B) (2- 5A SYNTHETASE 1B) - Mus musculus (Mouse), 414 aa.	Human Gene SWISSPROT-ACC:P29080 (2'-5')OLIGOADENYLATESYNTHETASE 1B (EC 2.7.7) ((2-5')OLIGO(A) SYNTHETASE 1B) (2-5A SYNTHETASE 1B) (2-5A SYNTHETASE 1B) (2-5A SYNTHETASE 1B) - Mus	Human Gene SWISSPROT- ACC:P04177 TYROSINE 3- MONOOXYGENASE (EC 1.14.16.2) (TYROSINE 3-HYDROXYLASE) (TH) - Rattus norvegicus (Rat), 498
UNCLASSI	UNCLASSI	UNCLASSI FIED	UNCLASSI
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GCCGAGCCTGCA CCACCACAAAGG G[C/T]CGGTGCGA CTCTTCGCCTGG	CATAGAAGGCCA GGAGTCAGGAGA C[C/I]TGGGTTCT GTCCTGGATTATA CACC	GGAGTCAGGAGA CCTGGGTTCTGTC [C/T]TGGATTATAC ACCAGCTCACTGA GG	CCATGCCCACCC CCGACGCCACCA C[G/C]CCACAGGC CAGGGCTTCCG CAGGG
2354	256	268	53
cg42913861	cg43929685	cg43929685	cg43918561
173	174	175	176

(c)			
3.90E-218 8 (8p12)	_	(19913)	19 (19q13)
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E-218	4.90E-211 11	1.30E-210 -12	1.30E-210
3.90	4.90	1.30	1.306
Human Gene SWISSPROT- ACC:P14902 INDOLEAMINE 2,3- DIOXYGENASE (EC 1.13.11.42) (IDO) (INDOLEAMINE- PYRROLE 2,3-DIOXYGENASE) - Homo sapiens (Human), 403 aa.	Human Gene SPTREMBL- ACC:Q99816 TUMOR SUSCEPTIBILITY PROTEIN - HOMO SAPIENS (HUMAN), 390 aa.	Human Gene SWISSPROT- ACC:015382 BRANCHED-CHAIN AMINO ACID AMINOTRANSFERASE, MITOCHONDRIAL PRECURSOR (EC 2.6.1.42) (BCAT(M)) - Homo sapiens (Human), 392 aa.	Human Gene SWISSPROT- ACC:015382 BRANCHED-CHAIN AMINO ACID AMINOTRANSFERASE, MITOCHONDRIAL PRECURSOR (EC 2.6.1.42) (BCAT(M)) - Homo sapiens (Human), 392 aa.
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ATTTAATGAATTTC A CTGAAGACTGT[A/ GJAGAAGTACAAC TGAGAAATCCCTT T	AAAACAATGATAT CGATGAAGTTAT C/IJATTCCCACAG CTCCCTTATACAA AC	CACCATGAAGCA GTTGCTGCGGGC C[C/T]TGGAGGAG GGCCGCGTGCGG GAAGT	TCCTGTACAAAGA CAGGAACCTCCA[C/TJATTCCCACCA TGGAAAATGGGC CTG
1885	1146	979	1074
cg42343176 1885	cg43956382	cg43984681	cg43984681
177	178	179	180

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6.20E-204	1.90E-200 22	5.60E-191
SILENT- UNCLASSI Human Gene SPTREMBL- CODING FIED ACC:P78545 ESE-1B - HOMO SAPIENS (HUMAN), 371 aa	UNCLASSI Human Gene SPTREMBL- ACC:060704 TYROSYLPROTEIN SULFOTRANSFERASE-2 - HOMO SAPIENS (HUMAN), 377 aa.	UNCLASSI Human Gene SWISSNEW- FIED ACC:Q03385 GUANINE NUCLEOTIDE DISSOCIATION STIMULATOR RALGDS FORM A (RALGEF) - Mus musculus (Mouse), 852 aa.
UNCLASSI FIED	UNCLASSI FIED	UNCLASSI
SILENT- CODING	SILENT- CODING	SILENT- CODING
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Pro	Leu	Leu
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CTGCGGTGGAGA A CGTCAGAGCTGC C[A/G]GGGGAGGG GGCTCCTGCGCC ACAGC	ACCAGCTGCTCGT G AGTACACAGGCA[G/A]GCACTTCTCC TTGCCTACCTCCA TG	CTACCGCCAACTA C TGACTTTGTCCT[C /GJAAGAAGCGGA CCTTCACCAAGG GAG
1762	886	1114
cg43950996 1762	cg44024506	cg43980381
181	182	183

	15	9 (9q22.2)
2.00E-189	1.40E-188	3.50E-178
UNCLASSI Human Gene SWISSPROT- ACC:Q10981 GALACTOSIDE 2-L- FUCOSYLTRANSFERASE 2 (EC 2.4.1.69) (GDP-L-FUCOSE:BETA- D- GALACTOSIDE 2-ALPHA-L- FUCOSYLTRANSFERASE 2) (ALPHA(1,2)FT 2) (ALPHA(1,2)FT 2) (FUCOSYLTRANSFERASE 2) (SECRETOR BLOOD GROUP ALPHA-2- FUCOSYLTRANSFERASE) (SECRETOR FACTOR) (SE) (SE2) - Homo sapiens (Human), 343 aa.	Human Gene SWISSPROT- ACC:P09471 GUANINE NUCLEOTIDE-BINDING PROTEIN G(O), ALPHA SUBUNIT 1 - Homo sapiens (Human), 353 aa.	Human Gene SWISSPROT- ACC:P09467 FRUCTOSE-1,6- BISPHOSPHATASE (EC 3.1.3.11) (D-FRUCTOSE-1,6- BISPHOSPHATE 1- PHOSPHOHYDROLASE) (FBPASE) - Homo sapiens (Human), 337 aa.
UNCLASSI	UNCLASSI	UNCLASSI FIED
SILENT. CODING	SILENT- CODING	SILENT. CODING
Asn	Val	Ala
Asn	Val	Ala
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TCCCCTGGCAGA ACTACCACCTGAA [C/T]GACTGGATG GAGGAGGAATAC CGCC	ACATCCAGGTGGT GTTCGACGCCGTI C/TJACCGACATCA TCATTGCCAACAA	CAGTGACGGCAG GGTCAAAGTCCTT [G/A]GCGTAGCCC TCGTTAAGGCTGT AGA
501	1497	615
cg42650960 501	cg43249389	cg43946951
184	185	186

16 (16p13.1 1)	(8p23.1)	22		
1.20E-161 16 (16 1)	5.40E-157	1.20E-154	9.60E-148	9.60E-148
UNCLASSI Human Gene SWISSPROT- ACC:Q14894 MU-CRYSTALLIN HOMOLOG (NADP-REGULATED THYROID-HORMONE BINDING PROTEIN) - Homo sapiens (Human), 314 aa.	Human Gene SWISSNEW- ACC:P11245 ARYLAMINE N- ACETYLTRANSFERASE, POLYMORPHIC (EC 2.3.1.5) (PNAT) (NAT-2) (ARYLAMINE ACETYLASE) - Homo sapiens (Human), 290 aa.	Human Gene SPTREMBL- ACC:Q15729 THYROTROPH EMBRYONIC FACTOR - HOMO SAPIENS (HUMAN), 303 aa.	UNCLASSI Human Gene Homologous to SWISSNEW-ACC:Q12846 SYNTAXIN 4 - Homo sapiens (Human), 297 aa.	Human Gene Homologous to SWISSNEW-ACC:Q12846 SYNTAXIN 4 - Homo sapiens (Human), 297 aa.
UNCLASSI	UNCLASSI	UNCLASSI	UNCLASSI	UNCLASSI FIED
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
H H	Tyr	Thr	Arg	Gly
Thr	Tyr ,	토	Arg	Gly
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AACCAGCCCACT GTGAGAAGACCA C[G/C]GTGTTCAA GTCTTTGGGAATG GCAG	CCACAATGTTAGG AGGTATTTTA[C MJATCCCTCCAGT TAACAAATACAGC A	CTGCCATCTTTCA GCCCTCTGAAACI C/TJGTGTCCAGCA CAGAATCTTCCCT GG	GCGCTTCCCAGG TCCGGACAATTCG [G/T]CAGACTATTG TCAAACTGGGGAA TA	GGCAGCTGAAGA TCACCAATGCTGG [G/C]ATGGTGTCT GATGAGGAGTTG GAGC
1054	482	499	350	701
cg43248117 1054	cg44027049	cg43982075	cg43942977	cg43942977
187	188	189	190	191

	. 5	ω	19
9.60E-148	5.10E-145	5.10E-145	2.80E-144
UNCLASSI Human Gene Homologous to SWISSNEW-ACC:012846 SYNTAXIN 4 - Homo sapiens (Human), 297 aa	Human Gene Homologous to SWISSNEW-ACC:P29218 MYO- INOSITOL-1(OR 4)- MONOPHOSPHATASE (EC 3.1.3.25) (IMP) (INOSITOL MONOPHOSPHATASE) (LITHIUM- SENSITIVE MYO-INOSITOL MONOPHOSPHATASE A1) - Homo sapiens (Human), 277 aa.	Human Gene Homologous to SWISSNEW-ACC:P29218 MYO- INOSITOL-1(OR 4)- MONOPHOSPHATASE (EC 3.1.3.25) (IMP) (INOSITOL MONOPHOSPHATASE) (LITHIUM- SENSITIVE MYO-INOSITOL MONOPHOSPHATASE A1) - Homo sapiens (Human), 277 aa.	Human Gene Homologous to SWISSPROT-ACC:P29692 ELONGATION FACTOR 1-DELTA (EF-1-DELTA) - Homo sapiens (Human), 281 aa.
UNCLASSI FIED	UNCLASSI	UNCLASSI FIED	UNCLASSI
S(LENT- CODING	SILENT. CODING	SILENT- CODING	SILENT- CODING
Leu	Ġļ y	Ser	Ala
Leu	λίο Θ	Ser	Ala
F	ပ	F	O
ပ	F	0	A
GCGAGGTGTTTGT G GTCCAATATCCT[G/TAAGGACACGC AGGTGACTCGAC AGG	TGTACACTGCCAG AAAAGGAAAAGGI T/GJGCCTTTTGTA ATGGTCAAAAACT AC	TCTTGGTGACTGA GTTGGGCTCTTC[C/TJAGAACACCAG AGACTGTGAGAAT GG	TAGAGCGCACAC AGGCCTCCAGCT G[A/G]GCCATGTC CGTCTCATCATCC CAAG
773	753	837	321
cg43942977 773	cg43985220	cg43985220	cg43946394
192	193	194	195

8 (8q22)	2 (2p13)	20	19 (19q13.4)	9
6.90E-141 8 (8q22)	1.20E-111 2 (2p13)	4.80E-110	2.10E-100	6.80E-95
Human Gene Homologous to SWISSPROT-ACC:P00915 CARBONIC ANHYDRASE I (EC 4.2.1.1) (CARBONATE DEHYDRATASE I) - Homo sapiens (Human), 260 aa.	Human Gene Homologous to SWISSPROT-ACC:Q05195 MAD PROTEIN (MAX DIMERIZER) - Homo sapiens (Human), 221 aa.	Human Gene Homologous to TREMBLNEW-ACC:AAD43195 PEROXISOMAL MEMBRANE PROTEIN PMP 24 - HOMO SAPIENS (HUMAN), 212 aa.	Human Gene Similar to TREMBLNEW-ACC:BAA13472 CD89_U08 - HOMO SAPIENS (HUMAN), 191 aa.	Human Gene Similar to TREMBLNEW-ACC:CAB43107 PRENYLATED RAB ACCEPTOR 1 (PRA1) - HOMO SAPIENS (HUMAN), 185 aa.
UNCLASSI FIED	UNCLASSI	UNCLASSI	UNCLASSI	UNCLASSI
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
Phe	Leu	<al></al>	Arg	Pro
Phe	ren 	Val	Arg	Pro
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CTGACAGCTACAG C GCTCTTTCAGTT[C //JCATTTTCACTG GGGCAGTACAAAT G	AGAAGTTGAAGG GGCTGGTGCCAC T[T/G]GGACCCGA ATCAAGTCGACAC	TGGGTTCAGGGA TGTAGCCCTTCTC [T/C]ACAGCCAGG CGGCTCAGGGCA	GCCAATATAGGAT AGGGCACTACAG[A/GJTTCCGGTACA GTGACACCCTGG AGC	ACGGGGAGGAGC TGCAGATGGAAC C[C/T]GTGTGAGG TGTCTTCTGGGAC CTGC
1329	735	998	402	629
cg43119818 1329	cg43118279	cg43325007	cg39524111	cg43280516
196	197	198	199	200

1-		(Tzq23)	1	
l .	1.30E-89	3.80E-85	1.30E-77	5.60E-68
UNCLASSI Human Gene Similar to SPTREMBL- 5.10E-90 FIED ACC:014803 BCL-X/BCL-2 BINDING PROTEIN - HOMO SAPIENS (HUMAN), 168 aa (fragment).	Human Gene Similar to TREMBLNEW-ACC:BAA34941 HUMAN CMAP - HOMO SAPIENS (HUMAN), 167 aa.	Human Gene Similar to SWISSPROT-ACC:P09496 CLATHRIN LIGHT CHAIN A (BRAIN AND LYMPHOCYTE LCA) - Homo sapiens (Human), 248 aa.	Human Gene Similar to SPTREMBL- 1.30E-77 ACC:O00496 IPL (IPL) - HOMO SAPIENS (HUMAN), 152 aa.	Human Gene Similar to REMTREMBL-ACC:G36907 T-CELL RECEPTOR ALPHA-CHAIN HAP58 V(A)10.1-J(A)T - HOMO SAPIENS (HUMAN), 135 aa (fragment).
UNCLASSI	UNCLASSI	UNCLASSI	UNCLASSI FIED	UNCLASSI FIED
SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING	SILENT- CODING
Arg	ren	Pro	nen	Arg
Arg	Leu	Pro	ne ₁	Arg
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AGAGGTTGGGGG GCGCCGAGCGCG A[G/A]CGGCCCCG AAGGGGCTGGG	TAGTGAAAGGCCT GAAATATATGCT[G /C]GAGGTGGAAAT TGGCAGAACTACC T	CTCCATCAACAGC ATCCGGACTGCA T/CJGGCGGCTCG CCGTGCGGCTGG GGCC	CGACGAGGTGCT ACGCGAGGGCGA G[C/T]TGGAGAG CGCAGCGACAGC CTCTT	TTTTTCCAGCTT ACAATGGTACAG[A/G]CAGGAGCCT GGGGAAGGTCCT GTCC
871	682	915	136	162
cg43963913 871	cg40262905	cg43918168	cg43259701	cg1527767
201	202	203	204	205

(11p15.2	7 (7q35)		_	21
5.10E-58	8.50E-56	1.60E-54	2.00E-54	0
UNCLASSI Human Gene Similar to SWISSNEW- 5.10E-58 ACC:P06881 CALCITONIN GENE- RELATED PEPTIDE I PRECURSOR (CGRP-I) (ALPHA-TYPE CGRP) - Homo sapiens (Human), 128 aa.	Human Gene Similar to REMTREMBL-ACC:D1002898 T- CELL RECEPTOR BETA-CHAIN V REGION - HOMO SAPIENS (HUMAN), 112 aa (fragment).	Human Gene Similar to REMTREMBL-ACC:G33509 T CELL RECEPTOR - HOMO SAPIENS (HUMAN), 118 aa (fragment).	Human Gene Similar to SWISSNEW- 2.00E-54 ACC:P47992 LYMPHOTACTIN PRECURSOR (CYTOKINE SCM-1) (ATAC) (LYMPHOTAXIN) (SCM-1- ALPHA) - Homo sapiens (Human),	Human Gene SPTREMBL- ID:Q93050 VACUOLAR-TYPE H(+)- ATPASE 115 KDA SUBUNIT - HOMO SAPIENS (HUMAN), 831 aa.
UNCLASSI	UNCLASSI	UNCLASSI	UNCLASSI	ATPase_as sociated
SILENT- CODING	CODING	SILENT- CODING	SILENT- CODING	SILENT- ATPase NONCODI sociated NG
년	Leu	TP.	Thr	
Thr	ren	Th	Thr	
H	U	ပ	O	gap
O	I	⊢	⋖	O
	TCATCCTGAGTTC TAAGAAGCTCCT[T /C]CTCAGTGACTC TGGCTTCTATCTC T	CTCTGGTTGTCCA CGAGGGAGACACI T/CJGTAACTCTCA ATTGCAGTTATGA AG	AAGTCTGTGCTGA A TCCACAAGCCAC[A/G]TGGGTGAGA GACGTGGTCAGG AGCA	AGGGAGGCGGGG AGGGTAGCATGG G[G/gap]CACACGG CCCTCACAGGGA CTCACT
316	300	317	249	1571
cg40968986 316	cg42550133	cg2526759	cg41664708	cg43300673
206	207	208	209	210

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4.00E-121	9.40E-58	0	0	0
ATPase_as Human Gene Homologous to sociated SPTREMBL-ID:Q18788 C52E4.5 - CAENORHABDITIS ELEGANS, 590 aa.	Human Gene Similar to SPTREMBL- 9.40E-58 ID:Q15332 GAMMA SUBUNIT OF SODIUM POTASSIUM ATPASE LIKE - HOMO SAPIENS (HUMAN), 126 aa.	Human Gene SWISSPROT- ID:P18084 INTEGRIN BETA-5 SUBUNIT PRECURSOR - HOMO SAPIENS (HUMAN), 799 aa.	Human Gene SWISSPROT- ID:P18084 INTEGRIN BETA-5 SUBUNIT PRECURSOR - HOMO SAPIENS (HUMAN), 799 aa.	Human Gene SWISSPROT- ID:P18084 INTEGRIN BETA-5 SUBUNIT PRECURSOR - HOMO SAPIENS (HUMAN), 799 aa.
ATPase_as sociated	ATPase_as sociated	cadherin	cadherin	cadherin
SILENT- ATPase NONCODI sociated NG	SILENT- ATPase NONCODI sociated NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
Κ	ပ	-	–	ပ
gap	∢	ဖ	ဖ	gap
AGTTGAAATCAGA gap GAGGAATAAAAA[g ap/A]GACATTTTAT ATTTTATTCTGCT CC	TAAGCATGAGGTG A GCACGAGGCAGG[A/CJGTTGGCGATG CCACCTGGGGGT CAC	GGTCCCTTGCTT TATCCCAAGCTC G/TJGAGGGACGC AGCCTGGCATGG CTCT	GTCCCCTTGCTTT ATCCCAAGCTCG GTJAGGGACGCA GCCTGGCATGGC TCTG	CTTTATCCCAAGC TCGGAGGGACGC[gap/GJAGCCTGGC ATGGCTCTGGCCT AGCA
2570	196	909	209	615
cg43284434 2570	cg43132502	cg43931765	cg43931765	cg43931765
211	212	213	214	215

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0	0	0	0	0
Human Gene SWISSPROT- ID:P18084 INTEGRIN BETA-5 SUBUNIT PRECURSOR - HOMO SAPIENS (HUMAN), 799 aa.	Human Gene SWISSPROT. ID:P18084 INTEGRIN BETA-5 SUBUNIT PRECURSOR - HOMO SAPIENS (HUMAN), 799 aa.	Human Gene SWISSPROT- ID:P18084 INTEGRIN BETA-5 SUBUNIT PRECURSOR - HOMO SAPIENS (HUMAN), 799 aa.	Human Gene SWISSPROT- ID:P18084 INTEGRIN BETA-5 SUBUNIT PRECURSOR - HOMO SAPIENS (HUMAN), 799 aa.	Human Gene SWISSPROT- ID:P18084 INTEGRIN BETA-5 SUBUNIT PRECURSOR - HOMO SAPIENS (HUMAN), 799 aa.
cadherin	cadherin	cadherin	cadherin	cadherin
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
—	<u> </u>		-	-
gap	gap	gap	gap	gap
TAGCAGCCAGGT GACATGGCCAGG C[gap/T]ACCTTCC TGTACAGGCACTG	GCCAGGTGACAT GGCCAGGCACCT T[gap/T]CCTGTAC AGGCACTGTGGG CTCCTG	AGGTGACATGGC CAGGCACCTTCCT [gap/TjGTACAGGC ACTGTGGGCTCCT GGCC	AGGTGACATGGC CAGGCACCTTCCT [gap/T]GTACAGGC ACTGTGGGCTCCT GGCC	AGGTGACATGGC CAGGCACCTTCCT [gap/T]GTACAGGC ACTGTGGGCTCCT GGCC
	965	899	899	668
cg43931765 660	cg43931765	cg43931765	cg43931765	cg43931765
216	217	218	219	220

16	16 (16p11.2)	1 (1923)
0	0	1.00E-218 1 (1q23)
Human Gene SPTREMBL- ID:Q15065 OB-CADHERIN-1 - HOMO SAPIENS (HUMAN), 796 aa.	Human Gene SWISSPROT- ID:P20701 LEUKOCYTE ADHESION GLYCOPROTEIN LFA-1 ALPHA CHAIN PRECURSOR (LEUKOCYTE FUNCTION ASSOCIATED MOLECULE 1, ALPHA CHAIN) (CD11A) (INTEGRIN ALPHA- L) - HOMO SAPIENS (HUMAN), 1170 aa.	Human Gene SWISSPROT- ID:P14151 L-SELECTIN PRECURSOR (LYMPH NODE HOMING RECEPTOR) (LEUKOCYTE ADHESION MOLECULE-1) (LAM-1) (LEUKOCYTE SURFACE ANTIGEN LEU-8) (TQ1) (GP90-MEL) (LEUKOCYTE-ENDOTHELIAL CELL ADHESION MOLECULE 1) (LECAM1) (CD62L) - HOMO SAPIENS (HUMAN), 372 aa.
cadherin	cadherin	cadherin
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
ပ	⊢	ပ
⋖	10	—
AATCCACAATCGG A CATCAGGAAGCC[A/CJAAGTCCCAGT GGCCATTAGGGT CCT	TCCCTATGAGCCT GCAAAGGAGACA[G/IJTCAGGAATGA GTTCCATGTTCGA GA	CAGTGCATCTGG GAAGATTTCTACC[T/C]GACCAACAGT TCCTTCAGCTTCC AT
4769	1406	1463
cg43952088 4769	cg44010957	cg43956560
221	222	223

1 (1923)	1 (1923)
1.00E-218 1 (1q23)	1.00E-218 1 (1q23)
Human Gene SWISSPROT- ID:P14151 L-SELECTIN PRECURSOR (LYMPH NODE HOMING RECEPTOR) (LEUKOCYTE ADHESION MOLECULE-1) (LAM-1) (LEUKOCYTE SURFACE ANTIGEN LEU-8) (TQ1) (GP90-MEL) (LEUKOCYTE-ENDOTHELIAL CELL ADHESION MOLECULE 1) (LECAM1) (CD62L) - HOMO SAPIENS (HUMAN), 372 aa.	Human Gene SWISSPROT- ID:P14151 L-SELECTIN PRECURSOR (LYMPH NODE HOMING RECEPTOR) (LEUKOCYTE ADHESION MOLECULE-1) (LAM-1) (LEUKOCYTE SURFACE ANTIGEN LEU-8) (TQ1) (GP90-MEL) (LEUKOCYTE-ENDOTHELIAL CELL ADHESION MOLECULE 1) (LECAM1) (CD62L) - HOMO SAPIENS (HUMAN), 372 aa.
cadherin	cadherin
5	SILENT- NONCODI NG
V	Α
ව	O
CAACAGTTCCTTC G AGCTTCCATTTC[G /A]CCCCTCATTTA TCCCTCAACCCCC A	TGCTCTCCTTTCC C CCTGCCCCCAGA[C/A]CTTTTATCCA CTTACCTAGATTC TA
cg43956560 1492	cg43956560 2242
224	225

-			5 (5p13)	9 (9q34.3)
4.10E-183	0	0	0	1.40E-104
Human Gene SWISSPROT- ID:P43235 CATHEPSIN K PRECURSOR (EC 3.4.22.38) (CATHESPIN O) (CATHEPSIN X) (CATHEPSIN O2) - HOMO SAPIENS (HUMAN), 329 aa.	Human Gene SWISSPROT- ID:P27658 COLLAGEN ALPHA 1(VIII) CHAIN PRECURSOR (ENDOTHELIAL COLLAGEN) - HOMO SAPIENS (HUMAN), 744 aa.	Human Gene SWISSPROT- ID:P27658 COLLAGEN ALPHA 1(VIII) CHAIN PRECURSOR (ENDOTHELIAL COLLAGEN) - HOMO SAPIENS (HUMAN), 744 aa.	complement Human Gene SWISSPROT- ID:P10643 COMPLEMENT COMPONENT C7 PRECURSOR - HOMO SAPIENS (HUMAN), 843 aa.	complement Human Gene Homologous to SWISSPROT-ID:P07360 COMPLEMENT C8 GAMMA CHAIN PRECURSOR - HOMO SAPIENS (HUMAN), 202 aa.
cathepsin	collagen	collagen	complement	complement
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
∢	ပ	ပ	O	ဖ
F	U	U	α	ပ
TGGCCACAGTGA AAAAGGTCATGG G[T/A]GGAGAGAA GCAAAGTAGGAA GGATC	ACCGCACCCTTTC CACCGGTGGGGG [C/G]CCCAGTGAA GTTTACAAACTG CTG	CATACCACGTTCA CTGCAAGGGGGG[C/GJAACGTGTGG GTTGCTCTATTCA AGA	GAAACCCAGTAG , GCTCCTGGAGGC C[A/C]TGGTCAGC TTGCTTGGAATCC AGCA	TGGTGGTGCTAC CCTTGGCCTCCCA [C/G]AGTCCTGCC ACCCTGCTGCCG CCAC
428	1972	2096	2546	64
cg43264626 428	cg43011543	cg43011543	cg43933757	cg41553795
226	227	228	229	230

.3)	17 (17q11.2)
1.20E-189	1.50E-107
Human Gene SWISSPROT- ID:P40225 THROMBOPOIETIN PRECURSOR (MEGAKARYOCYTE COLONY STIMULATING FACTOR) (C-MPL LIGAND) (ML) (MEGAKARYOCYTE GROWTH AND DEVELOPMENT FACTOR) (MGDF) - HOMO SAPIENS (HUMAN), 353 aa.	Human Gene Homologous to SWISSPROT-ID:P09919 GRANULOCYTE COLONY- STIMULATING FACTOR PRECURSOR (G-CSF) (PLURIPOIETIN) - HOMO SAPIENS (HUMAN), 207 aa.
ડ્ર	Js2
SILENT- NONCODI NG	SILENT- NONCODI NG
 -	—
O	U
ACCCGGATAGATT CCTCACCCTTGG C/TJCCGCCTTTGC CCCACCCTACTCT GC	GTGCCTGGACATT C TGCCTTGCTGGA(C/TJGGGGACTGG GGATGTGGGAGG GAGC
179	1356
cg42542496	cg41533258
232	233
	cg42542496 179 ACCCGGATAGATT C T SILENT- csf Human Gene SWISSPROT- 1.20E-189 3-CCTCACCCTTGG[NONCODI NONCODI PRECURSOR (MEGAKARYOCYTE CCCACCCTACTCT CCCACCCTACTCT (C-MPL LIGAND) (ML) (MEGAKARYOCYTE GROWTH AND DEVELOPMENT FACTOR) (MGDF) - HOMO SAPIENS (HUMAN), 353 aa.

rs	0
1.10E-77	5.80E-303 10
Human Gene Similar to SWISSNEW- 1.10E-77 5 ID:P08700 INTERLEUKIN-3 PRECURSOR (IL-3) (MULTIPOTENTIAL COLONY- STIMULATING FACTOR) (HEMATOPOIETIC GROWTH FACTOR) (MAST-CELL GROWTH FACTOR) (MAST-CELL GROWTH FACTOR) (MGF) - HOMO SAPIENS (HUMAN), 152 aa. ipcls:SWISSPROT-ID:P08700 INTERLEUKIN-3 PRECURSOR (IL- 3) (MULTIPOTENTIAL COLONY- STIMULATING FACTOR) (HEMATOPOIETIC GROWTH FACTOR) (P-CELL STIMULATING FACTOR) (MAST-CELL GROWTH FACTOR) (MAST-CELL GROWTH FACTOR) (MAST-CELL GROWTH FACTOR) (MAST-CELL GROWTH FACTOR) (MGGF) - HOMO SAPIENS (HUMAN), 152 aa.	Human Gene SWISSPROT- ID:P00367 GLUTAMATE DEHYDROGENASE 1 PRECURSOR (EC 1.4.1.3) (GDH) - HOMO SAPIENS (HUMAN), 558 aa.
csf	ydrogen
SILENT- NONCODI NG	SILENT- deh NONCODI ase NG
ပ	ပ
deb	ဖ
ACGACTTTGAGCC gap TCGCGATCTTT[g ap/GJAGTCCAACG TCCAGCTCGTTCT CTG CTG	TGCGGCTTAAAAG G GGCAACCCGCGC[G/C]GGACCCTTCC TCCCTAGTCGCG GGG
657	225
cg2753430	cg44036323
234	235

€	2)	
743	4 (4q22)	
2		
5.10E-272 7 ₁ (7q31)	1.30E-209	
0E		
5.1	E	0
dehydrogen Human Gene SPTREMBL- ase ID:Q14131 DIHYDROLIPOAMIDE DEHYDROGENASE - HOMO SAPIENS (HUMAN), 511 aa.	Human Gene SWISSNEW- ID:P08319 ALCOHOL DEHYDROGENASE CLASS II PI CHAIN (EC 1.1.1.1) - HOMO SAPIENS (HUMAN), 391 aa. pcls:SWISSPROT-ID:P08319 ALCOHOL DEHYDROGENASE CLASS II PI CHAIN (EC 1.1.1.1) - HOMO SAPIENS (HUMAN), 391 aa.	Human Gene SWISSNEW- ID:P19838 NUCLEAR FACTOR NF- KAPPA-B P105 SUBUNIT (DNA- BINDING FACTOR KBF1) (EBP-1) [CONTAINS: NUCLEAR FACTOR NF-KAPPA-B P50 SUBUNIT] - HOMO SAPIENS (HUMAN), 969 aa. pcls:SWISSPROT-ID:P19838 NUCLEAR FACTOR NF-KAPPA-B P105 SUBUNIT (CONTAINS: NUCLEAR FACTOR NF- KAPPA-B P50 SUBUNIT) (DNA-BINDING FACTOR KBF1) (EBP-1) - HOMO SAPIENS (HUMAN), 969 aa.
gen	ase	<u>ت</u> م
droc droc	اق ا	E
dehy	ase	dna_ma_bi
5		5
SILENT- NONCOE NG	SILENT- NONCOL NG	
NG N	NO N	SILENT- NONCOC NG
<u> </u>	<u>ن</u>	O
O	gap	deb
GAGAGACCATTTA C CTTACATCAGTT[C //JGGTTTATAGAC ATTTGAATCATAT C	AGTTTCATTATAC TTTCTCTCCACIG ap/GJTTTGTCTAT GTTGAAAATTTTC TG	ACAAGACAGAAG CTGAAGTGCATCC Igap/CJAAAGGTGC TCAGAGAGCCGG CCCGC
	1995	3691
cg43918671 766	cg43057018	cg44005808
236	237	238

	T	
	10	0
	1.40E-159 1	1.40E-159 10
0	1.40E	1.40E
Human Gene SWISSNEW- ID:P19838 NUCLEAR FACTOR NF- KAPPA-B P105 SUBUNIT (DNA- BINDING FACTOR KBF1) (EBP-1) [CONTAINS: NUCLEAR FACTOR NF-KAPPA-B P50 SUBUNIT]- HOMO SAPIENS (HUMAN), 969 aa.jpcis:SWISSPROT-ID:P19838 NUCLEAR FACTOR NF-KAPPA-B P105 SUBUNIT (CONTAINS: NUCLEAR FACTOR NF- KAPPA-B P50 SUBUNIT) (DNA-BINDING FACTOR KBF1) (EBP-1) - HOMO SAPIENS (HUMAN), 969 aa.	Human Gene SPTREMBL- ID:Q99612 DNA-BINDING PROTEIN CPBP - HOMO SAPIENS (HUMAN), 290 aa (fragment).	dna_rna_bi Human Gene SPTREMBL- ID:Q99612 DNA-BINDING PROTEIN CPBP - HOMO SAPIENS (HUMAN), 290 aa (fragment).
dna_rna_bi	dna_rna_bi nd	dna_rna_bi nd
SILENT- da	SILENT- dig	SILENT- dn NONCODI nd NG
ပ	∢	 -
дар	gap	gap
TCTTCCTTCTCCA gap GCCGGCAGGCCC [gap/G]CGCCGCTT AGGAGGGAGAGC CCACC	TGGCGAGTCCAG GGTCACCCACATA [gap/A]CCATGCAC CACGGGTGCTAT GCCGC	GAGTCCAGGGTC ACCCACATACCAT [gap/T]GCACCACG GGTGCTATGCCG CTTCT
630	1244	1248
cg44005808 630	cg43956159	cg43956159
239	240	241

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			1p36.13
9	9		- <u> </u>
1.40E-159 10	1.40E-159	1.40E-159	1.30E-60
Human Gene SPTREMBL- ID:Q99612 DNA-BINDING PROTEIN CPBP - HOMO SAPIENS (HUMAN), 290 aa (fragment).	Human Gene SPTREMBL- ID:Q99612 DNA-BINDING PROTEIN CPBP - HOMO SAPIENS (HUMAN), 290 aa (fragment).	Human Gene SPTREMBL- ID:Q99612 DNA-BINDING PROTEIN CPBP - HOMO SAPIENS (HUMAN), 290 aa (fragment).	Human Gene Similar to SWISSNEW-ID:Q02535 DNA-BINDING PROTEIN INHIBITOR ID-3 (ID-LIKE PROTEIN INHIBITOR HLH 1R21) (HELIX-LOOP-HELIX PROTEIN HEIR-1) - HOMO SAPIENS (HUMAN), 119 aa. Ipcls:SWISSPROT-ID:Q02535 DNA-BINDING PROTEIN INHIBITOR ID-3 (ID-LIKE PROTEIN INHIBITOR ID-3 (ID-LIKE PROTEIN INHIBITOR HLH 1R21) (HELIX-LOOP-HELIX PROTEIN HEIR-1) - HOMO SAPIENS (HUMAN), 119 aa.
dna_ma_bi nd	dna_ma_bi nd	dna_rna_bi nd	dna_rna_bi nd_inhib
SILENT- dra NONCODI nd NG	SILENT- dra NONCODI nd NG	SILENT- drig NONCODI nd NG	SILENT- dna_rna_NONCODI nd_inhib_NG
A	ပ	O	F
ပ	ဖ	gap	O
TACCATGCACCAC G GGGTGCTATGCCI G/AJCTTCTTACAG GACCTTTTAGCC CT	CCTGGAGGCAAC TGGGTAGGGTGC A(G/CJAACGGCAT GCTTTGGCTGGAA CACG	CAGAACGGCATG CTTTGGCTGGAAC [gap/CJACGCATCC CTCCTTCCACGGC CGGC	CAGAGCTAGCTCT GGCTCTTCAGGCI C/TACAAGTTCAC AGTCCTTCGCTCC TG
1268	1342	1364	471
cg43956159	cg43956159	cg43956159	cg43971258
242	243	244	245

1 (1p36.13)	9 (9p24)	9 (9p24)	9 (9p24)
1.30E-60	0	0	0
Human Gene Similar to SWISSNEW- ID:Q02535 DNA-BINDING PROTEIN INHIBITOR ID-3 (ID-LIKE PROTEIN INHIBITOR HLH 1R21) (HELIX- LOOP-HELIX PROTEIN HEIR-1) - HOMO SAPIENS (HUMAN), 119 aa.lpcis:SWISSPROT-ID:Q02535 DNA-BINDING PROTEIN INHIBITOR ID-3 (ID-LIKE PROTEIN INHIBITOR ID-3 (ID-LIKE PROTEIN INHIBITOR HLH 1R21) (HELIX-LOOP-HELIX PROTEIN HEIR-1) - HOMO SAPIENS (HUMAN), 119 aa.	Human Gene SWISSPROT- ID:P98155 VERY LOW-DENSITY LIPOPROTEIN RECEPTOR PRECURSOR (VLDL RECEPTOR) - HOMO SAPIENS (HUMAN), 873 aa.	Human Gene SWISSPROT- ID:P98155 VERY LOW-DENSITY LIPOPROTEIN RECEPTOR PRECURSOR (VLDL RECEPTOR) - HOMO SAPIENS (HUMAN), 873 aa.	Human Gene SWISSPROT- ID:P98155 VERY LOW-DENSITY LIPOPROTEIN RECEPTOR PRECURSOR (VLDL RECEPTOR) - HOMO SAPIENS (HUMAN), 873 aa.
dna_rna_bi	ebh	ebh	ebh
SILENT- dna_rna_ NONCODI nd_inhib NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
		-	
O	U	ဖ	ပ
-	gap	gap	A
GTCCTTCGCTCCT GAGCACCAGGTT[T/CJAGTCTCCAGG AAGGGATTTGGTG AA	GATACCTTTGCGT g GGATCAAGCTTG[gap/CJTGTACTTGA CCGTTTTATATTA CT	CAAAAAATTTAT AAACTAATTTTG[g ap/G]TACGTATGA ATGATATCTTTGA CCT	CCTCCTTCTCCCC CTTTCCCCTCCC[A/C]GCCCCCACCT TCTTCCTCCTTTC GG
208	3373	3739	514
cg43971258	cg43982507	cg43982507	cg43982507
246	247	248	249

6	<u> </u>	
11 (11q23)	- P	l _m
1.80E-203 11 (11	1.80E-203	0
Human Gene SWISSNEW- ID:P06727 APOLIPOPROTEIN A-IV PRECURSOR (APO-AIV) - HOMO SAPIENS (HUMAN), 396 aa. pcis:SWISSPROT-ID:P06727 APOLIPOPROTEIN A-IV PRECURSOR (APO-AIV) - HOMO SAPIENS (HUMAN), 396 aa.	Human Gene SWISSNEW- ID:P06727 APOLIPOPROTEIN A-IV PRECURSOR (APO-AIV) - HOMO SAPIENS (HUMAN), 396 aa. [pcls:SWISSPROT-ID:P06727 APOLIPOPROTEIN A-IV PRECURSOR (APO-AIV) - HOMO SAPIENS (HUMAN), 396 aa.	Human Gene SWISSPROT- ID:P51178 1- PHOSPHATIDYLINOSITOL 4,5- BISPHOSPHATE PHOSPHODIESTERASE DELTA 1 (EC 3.1.4.11) (PLC-DELTA-1) (PHOSPHOLIPASE C-DELTA-1) (PLC-III) - HOMO SAPIENS (HUMAN), 756 aa.
h de	d de	esterase
SILENT- eph NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
⊢	F	O
deb	gap	O
CTGCCCTGCCAC CTGTCTGTCTGTC [gap/I]CCAAAGAA GTTCTGGTATGAA CTTG	CTGCCCTGCCAC CTGTCTGTCTGTC (gap/TJCCAAAGAA GTTCTGGTATGAA CTTG	TCCCTCCAGGACT AGGCTGGAGGAA[G/CCCAGTGGGG TCCCCCTGAGT GGGC
1371	1371	2376
cg41554010 1371	cg41554010	cg43984905
250	251	252

E.		(11 pter)
0	0	1.80E-195
Human Gene SWISSPROT- ID:P51178 1- PHOSPHATIDYLINOSITOL-4,5- BISPHOSPHATE PHOSPHODIESTERASE DELTA 1 (EC 3.1.4.11) (PLC-DELTA-1) (PHOSPHOLIPASE C-DELTA-1) (PLC-III) - HOMO SAPIENS (HUMAN), 756 aa.	glycoprotein Human Gene SWISSPROT-ID:P08183 MULTIDRUG RESISTANCE PROTEIN 1 (P-GLYCOPROTEIN 1) - HOMO SAPIENS (HUMAN), 1280 aa.	glycoprotein Human Gene SWISSPROT- ID:P16070 CD44 ANTIGEN PRECURSOR (PHAGOCYTIC GLYCOPROTEIN I) (PGP-1) (HUTCH-I) (EXTRACELLULAR MATRIX RECEPTOR-III) (GP90 LYMPHOCYTE HOMING/ADHESION RECEPTOR) (HERMES ANTIGEN) (HEPARAN SULFATE PROTEOGLYCAN) (EPICAN) (CDW44) - HOMO SAPIENS (HUMAN), 742 aa.
esterase	glycoprotein	glycoprotein
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
O	∢	∢
o	ပ	ပ
CACATGTGGGGA CAGGGCTGGTGT G[G/C]CTGCTCCC AGCCTCTTGCTCA GAGC	CTAAAGTCGGAGT ATCTTCTTCCAA[G /AJATTTCACGTCT TGGCGGCCGTTC CA	TTCTAGAGGGG GTCTGTTGAAGAT [G/A]TGTAACTAGT ACACCCCAACCC CCA
	382	267
cg43984905 2440	cg43992911	cg43932434
253	254	255

(11pter)	1 (1921)
1.80E-195 11 (11)	3.10E-185 1 (1q21)
glycoprotein Human Gene SWISSPROT- ID:P16070 CD44 ANTIGEN PRECURSOR (PHAGOCYTIC GLYCOPROTEIN I) (PGP-1) (HUTCH-I) (EXTRACELLULAR MATRIX RECEPTOR-III) (GP90 LYMPHOCYTE HOMING/ADHESION RECEPTOR) (HYALURONATE RECEPTOR) (HEPARAN SULFATE PROTEOGLYCAN) (EPICAN) (CDW44) - HOMO SAPIENS (HUMAN), 742 aa.	glycoprotein Human Gene SWISSNEW- ID:P15813 T-CELL SURFACE GLYCOPROTEIN CD1D PRECURSOR (CD1D ANTIGEN) (R3G1) - HOMO SAPIENS (HUMAN), 335 aa. pcls:SWISSPROT-ID:P15813 T-CELL SURFACE GLYCOPROTEIN CD1D PRECURSOR (CD1D ANTIGEN) (R3G1) - HOMO SAPIENS (HUMAN), 335 aa.
	glycoprotein
SILENT- NONCODI NG	SILENT- NONCODI NG
<u>ග</u>	<u></u>
∢	∢
CCCCAACCCCCA ACCTCAGTGGAAA [A/G]CAATGCCCA GGGATTAGGCTAT GGA	GCGCAGGTCAGA GGGCGGCCGCAG C[A/G]GGCCTCCG CGAGGTCCCCAC GCCGG
	366
cg43932434 306	cg43318219
256	257

	T	T -	T
5	2	6 (6p25)	6 (6p25)
8.20E-67	8.20E-67	8.90E-61	8.90E-61
glycoprotein Human Gene Similar to SWISSPROT-ID:Q08878 FIBULIN-1, ISOFORM C PRECURSOR (BASEMENT-MEMBRANE PROTEIN 90) (BM-90) - MUS MUSCULUS (MOUSE), 685 aa.	glycoprotein Human Gene Similar to SWISSPROT-ID:Q08878 FIBULIN-1, ISOFORM C PRECURSOR (BASEMENT-MEMBRANE PROTEIN 90) (BM-90) - MUS MUSCULUS (MOUSE), 685 aa.	glycoprotein Human Gene Similar to SWISSPROT-ID:P49222 ERYTHROCYTE MEMBRANE PROTEIN BAND 4.2 (P4.2) (PALLIDIN) - MUS MUSCULUS (MOUSE), 690 aa.	glycoprotein Human Gene Similar to SWISSPROT-ID:P49222 ERYTHROCYTE MEMBRANE PROTEIN BAND 4.2 (P4.2) (PALLIDIN) - MUS MUSCULUS (MOUSE), 690 aa.
glycoprotein	†	glycoprotein	glycoprotein
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
deb	gap		
⊢	⊢	υ	∢
CTCTATACTGTAC ACTCACCCATAA[T /gap]TCAAACAATT ACACCATGGTATA AA	TCTATACTGTACA CTCACCCATAAT[T /gap]CAAACAATTA CACCATGGTATAA AG	GCCGAATAGCCT GGGTTTGGAAAA G[C/T]ATGTTTTTG AAATATGTGGGAT CTC	TACTGACCTAAAT CACACCCTAGAC[A/T]TATCAGAGGG AAATTCTGACCAT AA
	1955	1411	385
cg43967861 1954	cg43967861	cg43965366	cg43965366
258	259	260	261

12				
3.30E-54	1.20E-224 7	1.20E-224 7	1.20E-224 7	1.60E-206
glycoprotein Human Gene Similar to SWISSPROT-ID: P13983 EXTENSIN PRECURSOR (CELL WALL HYDROXYPROLINE-RICH GLYCOPROTEIN) - NICOTIANA TABACUM (COMMON TOBACCO), 620 aa.	Human Gene SWISSPROT- ID:P50219 HOMEOBOX PROTEIN HB9 - HOMO SAPIENS (HUMAN), 401 aa.	Human Gene SWISSPROT- ID:P50219 HOMEOBOX PROTEIN HB9 - HOMO SAPIENS (HUMAN), 401 aa.	Human Gene SWISSPROT- ID:P50219 HOMEOBOX PROTEIN HB9 - HOMO SAPIENS (HUMAN), 401 aa.	Human Gene TREMBLNEW- ID:G2896172 LIM HOMEOBOX PROTEIN COFACTOR - HOMO SAPIENS (HUMAN), 373 aa.
glycoprotein	homeobox	homeobox	homeobox	homeobox
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
ပ	ပ	ပ	—	U
∢	gap	gap	ပ	⊢
TGTCCTTGAAGAA A CATGCACTTGGC[A/G]CGGATGGCA CAAGCAAAATGGT AGA	CCCGCGCCCCAG TAGGAGCCCCGC Glgap/GJCCCAGCA GGTGCGGCGCGC	CCAGCAGGTGCG GCGCGCACGGAG C[gap/G]CGCCGG CCGGCGCTTCT CCCGGAG	TGAAACTTGAAAC CGCCTCTGGAGC[C/TJGCCATTCTGC AGAGTATTTGGAA AA	TCCAAGAAGGGT CATGGAAGCTTA[T/CJTGGGAATAAT CCTCTCAATTAGA AA
1255	1397	1423	1817	939
cg43322513	cg41637704	cg41637704	cg41637704	cg43980506
262	263	264	265	266

16 (16q22)	16 (16q22)	7 (7p21)
2.00E-220	2.00E-220	3.40E-108 7 (7p21)
Human Gene SPTREMBL- ID:Q13194 11-BETA- HYDROXYSTEROID DEHYDROGENASE TYPE 2 - HOMO SAPIENS (HUMAN), 405 aa.	Human Gene SPTREMBL- ID:Q13194 11-BETA- HYDROXYSTEROID DEHYDROGENASE TYPE 2 - HOMO SAPIENS (HUMAN), 405 aa.	Human Gene Homologous to SWISSPROT-ID:P05231 INTERLEUKIN-6 PRECURSOR (IL- 6) (B-CELL STIMULATORY FACTOR 2) (BSF-2) (INTERFERON BETA-2) (HYBRIDOMA GROWTH FACTOR) - HOMO SAPIENS (HUMAN), 212 aa.
hydroxyster oid	hydroxyster oid	interleukin
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
gap	gap	F
ڻ ن	Ø	deb
CTGGGGGTTTTC GGGGAGGAACCA A[G/gap]GGCTCAC GGAGCCTCCTGT GCTGCA	GGGGGTTTCGG GGAGGAACCAAG G[G/gap]CTCACGG AGCCTCCTGTGCT GCAGT	GAGTTAATTTATG TAAGTCATATT[g ap/I]ATATTTTTAA GAAGTACCACTTG AA
503	505	1031
cg43998672	cg43998672	cg42908571
268	269	270
	cg43998672 503 CTGGGGGTTTTC G gap SILENT- hydroxyster Human Gene SPTREMBL- 2.00E-220 GGGGAGGAACCA A[Ggap]GGCTCAC NONCODI oid HYDROXYSTEROID HYDROXYSTEROID GGAGCCTCCTGT NG HYDROXYSTEROID GGAGCCTCCTGT DEHYDROGENASE TYPE 2 - HOMO SAPIENS (HUMAN), 405 aa.	cg43998672 503 CTGGGGGTTTTC G gap SILENT- NonCODI oid hydroxyster Human Gene SPTREMBL- 2.00E-220 2.00E-220 A[G/gap]GGCTCAC GGAGGAACCA A[G/gap]GGCTCCTCTGT A[G/gap]GGCTCCTCTGT NG <

7 (7p21)	2 (2q35)	ري د
3.40E-108 7 (7p21)	9.60E-191 2 (2q35)	1.60E-156
Human Gene Homologous to SWISSPROT-ID:P05231 INTERLEUKIN-6 PRECURSOR (IL- 6) (B-CELL STIMULATORY FACTOR 2) (BSF-2) (INTERFERON BETA-2) (HYBRIDOMA GROWTH FACTOR) - HOMO SAPIENS (HUMAN), 212 aa.	interleukinre Human Gene SWISSPROT- cept ID:P25025 HIGH AFFINITY INTERLEUKIN-8 RECEPTOR B (IL- 8R B) (CXCR-2) (GRO/MGSA RECEPTOR) (IL-8 RECEPTOR TYPE 2) - HOMO SAPIENS (HUMAN), 360 aa.	Human Gene SWISSPROT- ID:P46926 PUTATIVE GLUCOSAMINE-6-PHOSPHATE ISOMERASE (EC 5.3.1.10) (GLUCOSAMINE- 6-PHOSPHATE DEAMINASE) (OSCILLIN) (KIAA0060) - HOMO SAPIENS (HUMAN), 289 aa.
interleukin	interleukinre cept	isomerase
SILENT- NONCODI NG	SILENT- inter NONCODI cept NG	SILENT- NONCODI NG
—	O	ပ
dag	F	∢
CTTACCTCAAATA gap AATGGCTAACTT[g ap/TJATACATATTT TTAAAGAAATATTT A	CAGCCCCATTGT GGTCACAGGAAG T/CJAGAGGAGGC CACGTTCTTACTA GTT	CCCAACCTGGGTT A TGGCAGACATCA[A/GJAATGATGGAG TACATTTTGCAGA TA
l .	1617	1133
cg42908571 1178	cg42164914	cg43958501 1133
271	272	273

ı,	5	X (Xq21.3)
1.60E-156 5	0	0
isomerase Human Gene SWISSPROT- ID:P46926 PUTATIVE GLUCOSAMINE-6-PHOSPHATE ISOMERASE (EC 5.3.1.10) (GLUCOSAMINE- 6-PHOSPHATE DEAMINASE) (OSCILLIN) (KIAA0060) - HOMO SAPIENS (HUMAN), 289 aa.	Human Gene SWISSPROT- ID:Q04759 PROTEIN KINASE C, THETA TYPE (EC 2.7.1) (NPKC- THETA) - HOMO SAPIENS (HUMAN), 706 aa.	Human Gene SWISSPROT- ID:Q06187 TYROSINE-PROTEIN KINASE BTK (EC 2.7.1.112) (BRUTON'S TYROSINE KINASE) (AGAMMAGLOBULINAEMIA TYROSINE KINASE) (ATK) (B CELL PROGENITOR KINASE) (BPK) - HOMO SAPIENS (HUMAN), 659 aa.
isomerase	kinase	kinase
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
4	ပ	ပ
<u>ဖ</u>	 -	4
CACCCCAGGTT CTCCTAGTTCAGA [G/A]AAAAGCTGT GAAAGTGGAAGA AGGA	TTTATTCTATTCCT ATCTGTGGATG[T/ G]GTAAATGGCTG GGGGGCCAGCCC TG	AGCCTTTGTGCTC A CCACTCAATACA[A /CJAAAGGCCCCTC TCTACATCTGGGA A
805	2710	2259
cg43958501 805	cg43090990 2710	cg42879455
274	275	276

X (Xq21.3)	ത	တ	o.
0	1.40E-290	1.40E-290	1.40E-290
Human Gene SWISSPROT- ID:Q06187 TYROSINE-PROTEIN KINASE BTK (EC 2.7.1.112) (BRUTON'S TYROSINE KINASE) (AGAMMAGLOBULINAEMIA TYROSINE KINASE) (ATK) (B CELL PROGENITOR KINASE) (BPK) - HOMO SAPIENS (HUMAN), 659 aa.	Human Gene SPTREMBL- ID:Q92749 TYPE I PHOSPHATIDYLINOSITOL 4- PHOSPHATE 5-KINASE BETA (EC 2.7.1.68) (STM-7 PROTEIN) - HOMO SAPIENS (HUMAN), 540 aa.	Human Gene SPTREMBL- ID:Q92749 TYPE I PHOSPHATIDYLINOSITOL-4- PHOSPHATE 5-KINASE BETA (EC 2.7.1.68) (STM-7 PROTEIN) - HOMO SAPIENS (HUMAN), 540 aa.	Human Gene SPTREMBL- ID:Q92749 TYPE I PHOSPHATIDYLINOSITOL-4- PHOSPHATE 5-KINASE BETA (EC 2.7.1.68) (STM-7 PROTEIN) - HOMO SAPIENS (HUMAN), 540 aa.
kinase	kinase	kinase	kinase
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
ပ	F	4	—
∢	U	O __	gap
AAAAAGGCCCCTC A TCTACATCTGG[A/GJATGCACCTCT TCTTTGATTCCCT GG	AGCAACTTGGCTG C AGCCCCACTACA[C/TJACAGAGAAAT CATCAACCTGACT TA	TAAGAGTTTTCAA GATGTCAAACTT[C /AJAGGCTGATCAG CAGATGGGATGT GA	TTTTTAAAAATCCA gap TCCACACACATga p/TJGGTAAATTAA GTATAAATTCTTTT G
2283	2151	2200	2451
cg42879455 2283	cg43971741 2151	cg43971741	cg43971741
277	278	279	280

19	. 10		17	
5.60E-267 19	5.60E-267	7.80E-173	1.40E-79	5.30E-55
Human Gene SWISSPROT- ID:P49840 GLYCOGEN SYNTHASE KINASE-3 ALPHA (EC 2.7.1.37) (GSK-3 ALPHA) - HOMO SAPIENS (HUMAN), 483 aa.	Human Gene SWISSPROT- ID:P49840 GLYCOGEN SYNTHASE KINASE-3 ALPHA (EC 2.7.1.37) (GSK-3 ALPHA) - HOMO SAPIENS (HUMAN), 483 aa.	Human Gene SPTREMBL- ID:Q15599 TYROSINE KINASE ACTIVATOR PROTEIN 1 (TKA-1) - HOMO SAPIENS (HUMAN), 450 aa.	Human Gene Similar to SPTREMBL- ID:Q15599 TYROSINE KINASE ACTIVATOR PROTEIN 1 (TKA-1) - HOMO SAPIENS (HUMAN), 450 aa.	Human Gene Similar to SWISSPROT-ID:P20505 30 KD PROTEIN KINASE HOMOLOG (EC 2.7.1-) (PROTEIN B1) - VACCINIA VIRUS (STRAIN COPENHAGEN), 300 aa.
kinase	kinase	kinase	kinase	Kinase
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
gap	gap	ပ	စ	d
<u>ග</u>	<u>ග</u>	deb	⋖	စ
AACGTCGATTCGC G ACCGTCCAACCT[G/gapJGCCCCGCC CCTCCTACAGCTG TAAC	ACGTCGATTCGCA CCGTCCAACCTG G/gapJCCCCGCCC CTCCTACAGCTGT AACT	CACTTAATACCAG AGACCCCCCCC gap/CJTCCCCTCC CCCTTCCCTCC CCTTCCCTCCC	AGACGTGTCTGC CACAGGTCTCAG G[A/G]TAACAGAT GCCCTGTCCACT GAGAG	TTTGATGGAAAGG TTGTCCACACTG[G/AJGAATTATCAC ACACTTGATCAGG AA
1996	1997	1535	306	1876
cg43947749 1996	cg43947749	cg44131752	cg43917718	cg43928048
281	282	283	284	285

9 (9p21)	(19913.1
2.60E-53 9 (9p21)	0
SILENT- kinaseinhibit Human Gene Similar to NONCODI or SWISSPROT-ID:P42771 CYCLIN- NG DEPENDENT KINASE 4 INHIBITOR A (CDK4I) (P16-INK4) (P16-INK4A) (MULTIPLE TUMOR SUPPRESSOR 1) (MTS1) - HOMO SAPIENS (HUMAN), 156 aa.	kinaserecep Human Gene SWISSNEW- ID:P30530 TYROSINE-PROTEIN KINASE RECEPTOR UFO PRECURSOR (EC 2.7.1.112) (AXL ONCOGENE) - HOMO SAPIENS (HUMAN), 887 aa.lpcls:SWISSPROT-ID:P30530 TYROSINE-PROTEIN KINASE RECEPTOR UFO PRECURSOR (EC 2.7.1.112) (AXL ONCOGENE) - HOMO SAPIENS (HUMAN), 887 aa.
kinaseinhibit or	kinaserecep tor
SILENT- kin NONCODI or NG	SILENT- kin NONCODI tor NG
	,
Σ	ပ
O	7
CCCTCCGGATTC C GGCGCGCGTGCG G[C/M]CCGCCGCG AGTGAGGGTTTTC GTGG	TCCAAGCTAAGCA A CTGCCACTGGGG[A/G]AAACTCCACC TTCCCACTTTCCC AC
cg42714751 208	cg43322545 2943
286	287

(19q13.1	19 (19q13.1)	16
0	0	0
kinaserecep Human Gene SWISSNEW- ID:P30530 TYROSINE-PROTEIN KINASE RECEPTOR UFO PRECURSOR (EC 2.7.1.112) (AXL ONCOGENE) - HOMO SAPIENS (HUMAN), 887 aa. pcls:SWISSPROT-ID:P30530 TYROSINE-PROTEIN KINASE RECEPTOR UFO PRECURSOR (EC 2.7.1.112) (AXL ONCOGENE) - HOMO SAPIENS (HUMAN), 887 aa.	kinaserecep Human Gene SWISSNEW- ID:P30530 TYROSINE-PROTEIN KINASE RECEPTOR UFO PRECURSOR (EC 2.7.1.112) (AXL ONCOGENE) - HOMO SAPIENS (HUMAN), 887 aa. pcls:SWISSPROT-ID:P30530 TYROSINE-PROTEIN KINASE RECEPTOR UFO PRECURSOR (EC 2.7.1.112) (AXL ONCOGENE) - HOMO SAPIENS (HUMAN), 887 aa.	Human Gene SPTREMBL- ID:Q14807 KID (KINESIN-LIKE DNA BINDING PROTEIN) - HOMO SAPIENS (HUMAN), 665 aa.
kinaserecep tor	kinaserecep tor	kinesin
SILENT- kin NONCODI tor NG	SILENT- kin NONCODI for NG	SILENT- NONCODI NG
	Wast	
ပ	O	ပ
ပ	ပ	d
CCACCTCCATCCC C AGACAGGTCCCT[C/G]CCCTTCTCTG TGCAGTAGCATCA CC	CACCTCCATCCCA GACAGGTCCCTC C/GJCCTTCTCTGT GCAGTAGCATCAC CT	GTCTGATAGAAGA GGAGCAGGAGAQI A/GJCAAATCGTTA AAACCTAGCGAAT TC
3037	3038	1040
cg43322545 3037	cg43322545	cg43980494
288	588	290

14	6 (6p21.3)	6 (6p21.3)	19	
1.90E-304 14	3.40E-147	3.70E-134	1.80E-113	3.50E-81
Human Gene SWISSPROT. ID:Q07866 KINESIN LIGHT CHAIN (KLC) - HOMO SAPIENS (HUMAN), 569 aa.	Human Gene Homologous to SWISSPROT-ID:P13765 HLA CLASS II HISTOCOMPATIBILITY ANTIGEN, DO BETA CHAIN PRECURSOR - HOMO SAPIENS (HUMAN), 273 aa.	Human Gene Homologous to SWISSPROT-ID:P06340 HLA CLASS II HISTOCOMPATIBILITY ANTIGEN, DZ ALPHA CHAIN PRECURSOR (MHC DN-ALPHA) - HOMO SAPIENS (HUMAN), 250 aa.	Human Gene Homologous to SPTREMBL-ID:Q95368 HLA CLASS I INHIBITORY NK RECEPTOR - HOMO SAPIENS (HUMAN), 455 aa.	misc_chann Human Gene Similar to SPTREMBL- ID:P91197 SIMILAR TO LIGAND- GATED IONIC CHANNEL PROTEIN - CAENORHABDITIS ELEGANS, 461 aa.
kinesin	МНС	MHC	MHC	
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
ပ	O	ပ	O	ပ
⋖	∢	4	 -	⊢
TCAGGAGCAAGG A CGAATGTATGACA [A/C]CATGTCCACA ATGGTGTACATAA AG	TTCTGAAGAGGCT GACGATTTACTIA /GJTCTCATTTTTT CCTTTCTCCAGAA	CTAGCTTCCCTTC CCATTCAACACA[A /CJACACACATTCT TGCTCTACCCAAA G	TGTCTCAAACCCA GCTTGCCAGCTC[T/CJAATGTACCAG CAGCTGGAATCTG AA	GTGGCTGGGCTA TTCCATCCATCTGI T/GJAAGCACATTT GAGCCTCCAGGC TTC
374	305	1167	1122	2506
cg43925424	cg42479188	cg42686658	cg38337333	cg27803682
291	292	293	294	295

	1	T		
			-	
7.90E-79	7.90E-79	7.90E-79	2.30E-71	0
misc_chann Human Gene Similar to SPTREMBL- 7.90E-79 el ID:P91197 SIMILAR TO LIGAND- GATED IONIC CHANNEL PROTEIN - CAENORHABDITIS ELEGANS, 461 aa.	misc_chann Human Gene Similar to SPTREMBL- ID:P91197 SIMILAR TO LIGAND- GATED IONIC CHANNEL PROTEIN - CAENORHABDITIS ELEGANS, 461 aa.	misc_chann Human Gene Similar to SPTREMBL-7.90E-79 el ID:P91197 SIMILAR TO LIGAND-GATED IONIC CHANNEL PROTEIN - CAENORHABDITIS ELEGANS, 461 aa.	Human Gene Similar to SPTREMBL- ID:P91197 SIMILAR TO LIGAND- GATED IONIC CHANNEL PROTEIN - CAENORHABDITIS ELEGANS, 461 aa.	Human Gene SWISSPROT- ID:P15498 VAV PROTO- ONCOGENE - HOMO SAPIENS (HUMAN), 846 aa.
misc_chann el	misc_chann el	misc_chann el	misc_chann el	oncogene
SILENT- NONCODI el NG	SILENT- NONCOD! el NG	SILENT- NONCODI NG	SILENT- NONCODI el NG	SILENT- NONCODI NG
ڻ ص	ပ	ڻ ص	ပ	υ
⊢	⊢	⋖	⋖	gap
CGAGCGGCACCC AGAGCCTGCACC C[T/G]CCCTCACC GTCCTTCTGCGTC CCCC	AGGAGCCTCTTC GGTGTCCCCGAG T/CJGCCACGGTCA AGACCCGCAGCA CCA	CGGTCAAGACCC GCAGCACCAAAG C[A/G]CCGCCCC GCACCTGCCCCT	GAGCCGTGTGGC TGTGGCCTCCGG G[A/C]GGCGGTGG ACGCGTGCGCT TCATC	GGGTGCACGGCC GGCCCTGGGCAG G[gap/C]GTAGCCA TGGAGCTGTGGC GCCAAT
1440	1860	1890	1541	68
cg21413267 1440	cg21413267	og21413267	cg42481172	cg39518465
296	297	298	299	300

	,	T	
22 (22q11)		ω	
2.40E-84 22 (22q11)	1.40E-62	3.90E-62	8.00E-257
Human Gene Similar to SWISSPROT-ID: Q64010 PROTO- ONCOGENE C-CRK (P38) (ADAPTER MOLECULE CRK) - MUS MUSCULUS (MOUSE), 304 aa.	Human Gene Similar to SWISSPROT-ID:P31695 NEUROGENIC LOCUS NOTCH HOMOLOG PROTEIN 4 PRECURSOR (TRANSFORMING PROTEIN INT-3) - MUS MUSCULUS (MOUSE), 1964 aa.	Human Gene Similar to TREMBLNEW-ID:G2952331 ARG/ABL-INTERACTING PROTEIN ARGBP2A - HOMO SAPIENS (HUMAN), 666 aa.	Human Gene SWISSNEW- ID:P08684 CYTOCHROME P450 3A4 (EC 1.14.14.1) (CYPIIIA4) (NIFEDIPINE OXIDASE) (NF-25) (P450-PCN1) - HOMO SAPIENS (HUMAN), 502 aa. pcls:SWISSPROT-ID:P08684 CYTOCHROME P450 IIIA4 (EC CYTOCHROME P450 IIIA4 (EC 1.14.14.1) (NIFEDIPINE OXIDASE) (NF-25) (P450-PCN1) - HOMO SAPIENS (HUMAN), 502 aa.
oncogene	oncogene	oncogene	oxidase
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
ပ	—	ပ	
gap	ပ	⋖	4
ATGGGGCCGGTG TCTCGCCAGGAG Glgap/ClGCAGGCC CGGCTCCAGGGC CAGCGC	AGCATTTGAGGAA GCATAACTGACG C/TJGTGAAGGGG GTGTGGGGTACTT GCC	AGCATCTGCAGAC GACCCCGCAGC[A/C]TTCCCTCGG ACCCCCTCGAA GCC	CACTGCTGTGCA GGGCAGGGA[A/T] GCTCCAGGCAGA CAGCCCAGCAAA G
627	235	2295	22
cg41972699	cg40333812		cg44014837
301	302	303	304

3 (3q26.3)	_		
0	4.60E-246	2.60E-227	1.90E-202
Human Gene SWISSPROT- ID:P07202 THYROID PEROXIDASE PRECURSOR (EC 1.11.1.8) (TPO) - HOMO SAPIENS (HUMAN), 933 aa.	Human Gene SPTREMBL- ID:Q15172 PROTEIN PHOSPHATASE 2A B56-ALPHA - HOMO SAPIENS (HUMAN), 486 aa.	Human Gene SWISSPROT- ID:Q14642 TYPE I INOSITOL-1,4,5- TRISPHOSPHATE 5- PHOSPHATASE (EC 3.1.3.56) (5PTASE) - HOMO SAPIENS (HUMAN), 412 aa. pcls:SPTREMBL- ID:Q14642 INOSITOL 1,4,5- TRIPHOPHATE 5-PHOSPHATASE - HOMO SAPIENS (HUMAN), 412 aa.	Human Gene SWISSPROT- ID:P36876 PROTEIN PHOSPHATASE PP2A, 55 KD REGULATORY SUBUNIT, ALPHA ISOFORM (PROTEIN PHOSPHATASE PP2A B SUBUNIT ALPHA ISOFORM) (ALPHA-PR55) - RATTUS NORVEGICUS (RAT), 447 aa.
peroxidase	phosphatas e	phosphatas e	phosphatas e
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI e NG	SILENT- NONCODI NG
gap	<u>o</u>	O	<u>ن</u>
⋖	-	∢	O
CAGCACAGCGAG A CGCTCTCATTCTG [A/gap]CCTTTTTTC CTCTTCTCAGCCA	TCTGTAGAGCTCT GAAAAGGTTGAC[T/GJATATAGAGGT CTTGTATGTTTTTA	GACAGACGAGAC AGTGAGGTATGTG [A/G]GGCTGCTCC GGAATGGTCCGG AGGC	TAACTATGCAAGA CAAGACTTGGTC C/GJTCACGTTCGC GTCTCTAGTTGAT TT
1	2958	1537	581
cg41626506 3178	cg43918944	cg43988365	cg43969460
305	306	307	308

023)		21)
2 (2)	ெ	1 (1p
1.60E-181 2 (2p23)	1.20E-89	5.40E-284 1 (1p21)
phosphatas Human Gene SWISSPROT- ID:P37140 SERINE/THREONINE PROTEIN PHOSPHATASE PP1- BETA CATALYTIC SUBUNIT (EC 3.1.3.16) (PP-1B) - HOMO SAPIENS (HUMAN), RATTUS NORVEGICUS (RAT), MUS MUSCULUS (MOUSE),,	phosphatas Human Gene Similar to SWISSPROT-ID:P39687 POTENT HEAT-STABLE PROTEIN PHOSPHATASE 2A INHIBITOR I1PP2A (HLA-DR ASSOCIATED PROTEIN I) (PHAPI) (ACIDIC NUCLEAR PHOSPHOPROTEIN PP32) (CEREBELLAR LEUCINE RICH ACIDIC NUCLEAR PROTEIN) - HOMO SAPIENS (HUMAN), 249 aa.	Human Gene SWISSPROT- ID:P22001 VOLTAGE-GATED POTASSIUM CHANNEL PROTEIN KV1.3 (HPCN3) (HGK5) (HUKIII) (HLK3) - HOMO SAPIENS (HUMAN), 523 aa.
phosphatas e	phosphatas einhíb	potassium_ channel
SILENT- NONCODI e NG	SILENT- phosp NONCODI einhib NG	SILENT- potassir NONCODI channel NG
U		⊢
L	ပ	Ø
AATTAAAACTCTA GGTGTATACTTA[T /CJATGGAACTAGT TTATTTCCTATTTA	TGCTCGCGCCGT GCCACTAAGGTCA [C/T]TCCCGCCTC CGAGAGCCCAGA GCCG	CTTTTCCCTCTTA CCCTCTCTCTT G/TAACATCGTAA ACAACAGACTTAC GT
		1977
cg43933809	cg43931444 215	cg42937321
309	310	311

1 (1p21)	(11q24)
5.40E-284 1 (1p21)	1.80E-205 11 (1.
SILENT- potassium Human Gene SWISSPROT- NONCODI channel ID:P22001 VOLTAGE-GATED NG POTASSIUM CHANNEL PROTEIN KV1.3 (HPCN3) (HGK5) (HUKIII) (HLK3) - HOMO SAPIENS (HUMAN), 523 aa.	Human Gene SWISSPROT- ID:P48048 ATP-SENSITIVE INWARD RECTIFIER POTASSIUM CHANNEL 1 (POTASSIUM CHANNEL, INWARDLY RECTIFYING, SUBFAMILY J, MEMBER 1) (ATP-REGULATED POTASSIUM CHANNEL ROM-K) (KIR1.1) - HOMO SAPIENS (HUMAN), 391 aa.
potassium_ channel	SILENT- potassium_NONCODI channel NG
SILENT- potassiu NONCODI channel NG	SILENT- potassiu NONCODI channel NG
<u> </u>	ပ
ပ	4
CCTCTTACCCTCT C CTCTCTGAACAT[C M]GTAAACAACAG ACTTACGTTAAAC T	CAAAATGTAACAG A TGGCTTTTCAAC[A /G]GGAGTAAAGCA AAGTCTCTAAAGC T
1983	1357
cg42937321	cg40991963
312	313

1	(1q25.2)																		
0																			
SILENT- prostaglandi Human Gene SWISSNEW-	ID:P35354 PROSTAGLANDIN G/H	SYNTHASE 2 PRECURSOR (EC	1.14.99.1) (CYCLOOXYGENASE -2)	(COX-2) (PROSTAGLANDIN-	ENDOPEROXIDE SYNTHASE 2)	(PROSTAGLANDIN H2 SYNTHASE	2) (PGH SYNTHASE 2) (PGHS-2)	(PHS II) - HOMO SAPIENS	(HUMAN), 604 aa. pcls:SPTREMBL-	ID:Q16876 PROSTAGLANDIN	ENDOPEROXIDE SYNTHASE-2	PRECURSOR (EC 1.14.99.1)	(PROSTAGLANDIN-	ENDOPEROXIDE SYNTHASE)	(PROSTAGLANDIN SYNTHASE)	(PROSTAGLANDIN G/H	SYNTHASE) - HOMO SAPIENS	(HUMAN), 604 aa.	
prostaglandi	د		-																·
SILENT-	NONCODI n	Ů N																	
٧																			
9																			
cg43951366 2332 AAAGATGTTTGAA G	TACTTAAACACTIG	MITCACAAGATGG	CAAAATGCTGAAA	g															
2332						_													
cg43951366										_					•				
314																			

1 (1925.2)	1 (1p31.2)
0	1.40E-211
prostaglandi Human Gene SWISSNEW- ID:P35354 PROSTAGLANDIN G/H SYNTHASE 2 PRECURSOR (EC 1.14.99.1) (CYCLOOXYGENASE-2) (COX-2) (PROSTAGLANDIN- ENDOPEROXIDE SYNTHASE 2) (PGH SYNTHASE 2) (PGHS-2) (PGH SYNTHASE 2) (PGHS-2) (PHS II) - HOMO SAPIENS (HUMAN), 604 aa. [pcls: SPTREMBL-ID:Q16876 PROSTAGLANDIN ENDOPEROXIDE SYNTHASE-2 PRECURSOR (EC 1.14.99.1) (PROSTAGLANDIN- ENDOPEROXIDE SYNTHASE) (PROSTAGLANDIN SYNTHASE) (PROSTAGLANDIN SYNTHASE) (PROSTAGLANDIN SYNTHASE) (PROSTAGLANDIN G/H SYNTHASE) - HOMO SAPIENS (HUMAN), 604 aa.	Human Gene SPTREMBL- ID:000325 PROSTAGLANDIN EP3 RECEPTOR SUBTYPE ISOFORM - HOMO SAPIENS (HUMAN), 402 aa.
prostaglandi n	prostaglandi n
SILENT- P NONCODI 11 NG	SILENT- NONCODI NG
O	O
⊢	⊢
TGGTGGAGCCAC T TGCAGTGTTATCT[T/CJAAAATAAGAA TATTTGTTGAGA TA TA	CACTTAACTTGCA TGTGCACAGCTT[T/CJTGGTAACAAA TATCGCTAAACCT TA
2829	1431
cg43951366 2829	cg43306254
315	316

1 (1p31.2)	(11q21)	2 (2q13)
1.40E-211	2.40E-146	2.40E-82
prostaglandi Human Gene SPTREMBL- ID:000325 PROSTAGLANDIN EP3 RECEPTOR SUBTYPE ISOFORM - HOMO SAPIENS (HUMAN), 402 aa.	Human Gene Homologous to SWISSNEW-ID:P09237 MATRILYSIN PRECURSOR (EC 3.4.24.23) (PUMP-1 PROTEASE) (UTERINE METALLOPROTEINASE) (MATRIX METALLOPROTEINASE- 7) (MMP-7) (MATRIN) - HOMO SAPIENS (HUMAN), 267 aa. pcls:SWISSPROT-ID:P09237 MATRILYSIN PRECURSOR (EC 3.4.24.23) (PUMP-1 PROTEASE) (UTERINE METALLOPROTEINASE- 7) (MMP-7) (MATRIN) - HOMO SAPIENS (HUMAN), 267 aa.	Human Gene Similar to SWISSPROT-ID:P25155 COAGULATION FACTOR X PRECURSOR (EC 3.4.21.6) (STUART FACTOR) (VIRUS ACTIVATING PROTEASE) (VAP) - GALLUS GALLUS (CHICKEN), 475 aa.
prostaglandi n	protease	protease
SILENT- principal noncodi nonc	SILENT- NONCODI NG	SILENT- NONCODI NG
L	⊢	O
V	ပ	ပ
ATGTGATTAATTA TGTGATGAAAACI AVIJITTTTATAAA TGATCTTGGTCTA	CAATCAGAATTGA TAAGCACTGTTC[C/TJTCCACTCCAT TTAGCAATTATGT CA	TCCATCCCTCTTT TGGGCTCTTCTG[G/CJAGGGAAGTAA CATTTACTGAGCA CC
	1064	1703
cg43306254 1666	cg42918089	cg44032168
317	318	319

11 (11q22)	6 (6pter)	6 (6pter)
2.40E-59	1.60E-124	1.60E-124 6 (6pter)
Human Gene Similar to SWISSPROT-ID:P50280 MATRILYSIN PRECURSOR (EC 3.4.24.23) (PUMP-1 PROTEASE) (UTERINE METALLOPROTEINASE) (MATRIX METALLOPROTEINASE- 7) (MMP-7) (MATRIN) - RATTUS NORVEGICUS (RAT), 267 aa.	Human Gene Homologous to SWISSPROT-ID:P16083 NAD(P)H DEHYDROGENASE (QUINONE) 2 (EC 1.6.99.2) (QUINONE REDUCTASE) (DT-DIAPHORASE) (AZOREDUCTASE) (PHYLLOQUINONE REDUCTASE) (MENADIONE REDUCTASE) - HOMO SAPIENS (HUMAN), 231 aa.	Human Gene Homologous to SWISSPROT-ID:P16083 NAD(P)H DEHYDROGENASE (QUINONE) 2 (EC 1.6.99.2) (QUINONE REDUCTASE) (DT-DIAPHORASE) (AZOREDUCTASE) (PHYLLOQUINONE REDUCTASE) (MENADIONE REDUCTASE) - HOMO SAPIENS (HUMAN), 231 aa.
prolease	reductase	reductase
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
U	O	O
 	V	gap
TACCCGGAAGTTG AGCTCAATTTCA[T /C]TTCTGTTTTCT GGCCACAACTGC CA	CCCAGTCCTGCG GCTCCTACTGGG G[A/C]GTGCGCTG GTCGGAAGATTG CTGGA	TACTGGGGAGTG CGCTGGTCGGAA Glgap/GJATTGCTG GACTCGCTGAAG AGAGAC
1250	175	191
cg43154190 1250	cg43927549	cg43927549
320	321	322

			·
6 (6pter)		en e	11
1.60E-124 6 (6pter)	3.30E-207	1.70E-200 3	2.10E-124
Human Gene Homologous to SWISSPROT-ID:P16083 NAD(P)H DEHYDROGENASE (QUINONE) 2 (EC 1.6.99.2) (QUINONE REDUCTASE) (DT-DIAPHORASE) (AZOREDUCTASE) (PHYLLOQUINONE REDUCTASE) (MENADIONE REDUCTASE) - HOMO SAPIENS (HUMAN), 231 aa.	Human Gene SWISSPROT- ID:O15142 ACTIN-LIKE PROTEIN 2 - HOMO SAPIENS (HUMAN), 394 aa.	Human Gene SWISSPROT- ID:Q14012 CALCIUM/CALMODULIN- DEPENDENT PROTEIN KINASE TYPE I (EC 2.7.1.123) (CAM KINASE I) - HOMO SAPIENS (HUMAN), 370 aa.	Human Gene Homologous to SPTREMBL-ID: O00379 DELTA- CATENIN - HOMO SAPIENS (HUMAN), 792 aa.
reductase	struct	struct	struct
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
<u>ن</u>	9	дар	ပ
деб	⋖	U	4
CGGTCCGTGGTC CCCGGGGGGCGCA G[gap/G]TCGCAGC GCTCCCGCCCTC CAGGCG	TTCTCAAAAGGCT GGGGGTATTTAT[A/GJTAAGAACTTA TTCCAAAGTGACT CT	AGGAAAGCCGGA GAATTGGGGCAC G[C/gap]AAGAGGG GGGGCTTTGATG ACCCGC	AGATTCATCAGAA TAGGATTTTTGCIA /CJAAATCCCACCC ATATGCTGTTGAG C
25	780	113	1926
cg43927549	cg43947066	cg43923264	cg43942332
323	324	325	326

12	7 (7q32)	17
4.80E-110 12		1.20E-55
Human Gene Homologous to SPTREMBL-ID:Q28910 MUCIN - BOS TAURUS (BOVINE), 600 aa (fragment).	Human Gene Similar to SWISSNEW- 3.50E-74 ID:P12273 PROLACTIN-INDUCIBLE PROTEIN PRECURSOR (SECRETORY ACTIN-BINDING PROTEIN) (SABP) (GROSS CYSTIC DISEASE FLUID PROTEIN 15) (GCDFP-15) (GP17) - HOMO SAPIENS (HUMAN), 146 aa.jpcls:SWISSPROT-ID:P12273 PROLACTIN-INDUCIBLE PROTEIN PRECURSOR (SECRETORY ACTIN-BINDING PROTEIN) (SABP) (GROSS CYSTIC DISEASE FLUID PROTEIN 15) (GCDFP-15) - HOMO SAPIENS (HUMAN), 146 aa.	Human Gene Similar to SWISSPROT-ID:P19065 SYNAPTOBREVIN 2 (VESICLE ASSOCIATED MEMBRANE PROTEIN 2) (VAMP-2) - HOMO SAPIENS (HUMAN), AND BOS TAURUS (BOVINE), 115 aa.
struct	struct	struct
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
—	-	-
ပ	O	⋖
CCGCTGTCTCTGT G CTTCGCTTTTTA[G //ITCAAGAAGAAT AATGCGACGAAAA T	CCACTTCTCTGGG ACACATTGCCTT[C MJTGTTTTCTCCA GCATGCGCTTGCT C	CATCATCATCATA GITTACTTCAGCIA MICTTAAATCCCC GAGGAGTCTGCC CT
280	94 9	546
cg43274705	cg42207316	cg43927885
327	328	329

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9.80E-269	9.20E-83
Human Gene SWISSPROT- ID:P48651 PHOSPHATIDYLSERINE SYNTHASE I (SERINE-EXCHANGE ENZYME I) (EC 2.7.8) (KIAA0024) - HOMO SAPIENS (HUMAN), 473 aa.	Human Gene Similar to SPTREMBL- 9.20E-83 ID:Q42761 SQUALENE SYNTHASE (EC 2.5.1.21) (FARNESYL- DIPHOSPHATE FARNESYLTRANSFERASE) (FARNESYLTRANSFERASE) (PRESQUALENE-DI- DIPHOSPHOSPHATE SYNTHASE) - GLYCYRRHIZA GLABRA, 412 aa.
synthase	synthase
SILENI- NONCODI NG	SILENT- NONCODI NG
-	O
ပ	⊢
AGGITACCAAACA C GGAATACAACACI C/TICTCTCCCTT TTCTGCTCTAGAA GG	TGGGTGATGATCA I CTGTGCTGCTTG[T/C]GGCTCATGGC AGAGCATTCAGTG CC
555	1565
cg43949316	cg43958714 1565
	SILEN I- Synthase Human Gene SWISSPROI- 9:80E-269 GGAATACAACAC GGAATACAACAC C/TICTCTCCCTT NG C/TICTCTCCCTT NG C/TICTCTCCCTT AGA C/TICTCTCCCTT NG C/TICTCTCCCTT NG C/TICTCTCCCTT NG C/TICTCTCCTCTAGAA C/TICTCTCTCCTTAGAA C/TICTCTCTCTAGAA C/TICTCTCTTAGAA C/TICTCTCTTAGAA C/TICTCTCTTAGAA C/TICTCTTAGAA C/TICTCTAGAA C/TICTCT

1 (1923)	1 (1 <mark>023)</mark>
3.20E-65 1 (1q23)	3.20E-65
Human Gene Similar to SWISSPROT-ID:P70490 MILK FAT GLOBULE-EGF FACTOR 8 PRECURSOR (MFG-E8) (O- ACETYL GD3 GANGLIOSIDE SYNTHASE) (AGS) (MFGM) - RATTUS NORVEGICUS (RAT), 427 aa.lpcls:SPTREMBL-ID:P70490 O- ACETYL GD3 GANGLIOSIDE SYNTHASE - RATTUS NORVEGICUS (RAT), 427 aa.	Human Gene Similar to SWISSPROT-ID:P70490 MILK FAT GLOBULE-EGF FACTOR 8 PRECURSOR (MFG-E8) (O- ACETYL GD3 GANGLIOSIDE SYNTHASE) (AGS) (MFGM) - RATTUS NORVEGICUS (RAT), 427 aa. Ipcls:SPTREMBL-ID:P70490 O- ACETYL GD3 GANGLIOSIDE SYNTHASE - RATTUS NORVEGICUS (RAT), 427 aa.
synthase	synthase
SILENT- NONCODI NG	SILENT- NONCODI NG
<u>.</u>	υ ·
0 - 0 -	⊢ ∀⊢ ⋠ ∟
ACAGACTGGCTG CAGCATTAGGAAT [C/TJAGGTCATTCC GAAACTCATCATT GA	GGTCATTCCGAAA CTCATCATTGAA[T /C]CAGGAAGAAGA AGAGTTCAATCTT A
2508	2535
cg43275028 2508	cg43275028 2535
333	334

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1 (1923)	1 (1923)
3.20E-65	3.20E-65
Human Gene Similar to SWISSPROT-ID:P70490 MILK FAT GLOBULE-EGF FACTOR 8 PRECURSOR (MFG-E8) (O- ACETYL GD3 GANGLIOSIDE SYNTHASE) (AGS) (MFGM) - RATTUS NORVEGICUS (RAT), 427 aa. Ipcls:SPTREMBL-ID:P70490 O- ACETYL GD3 GANGLIOSIDE SYNTHASE - RATTUS NORVEGICUS (RAT), 427 aa.	Human Gene Similar to SWISSPROT-ID:P70490 MILK FAT GLOBULE-EGF FACTOR 8 PRECURSOR (MFG-E8) (O- ACETYL GD3 GANGLIOSIDE SYNTHASE) (AGS) (MFGM) - RATTUS NORVEGICUS (RAT), 427 aa. pcls:SPTREMBL-ID:P70490 O- ACETYL GD3 GANGLIOSIDE SYNTHASE - RATTUS NORVEGICUS (RAT), 427 aa.
synthase	synthase
SILENT- NONCODI NG	SILENT- NONCODI NG
<u>o</u>	<u>o</u>
AGAATGGCACTGA A ATTCGTTCTC[A/ GJAACACAGATAT AATTGTTGGTTCA A	CTTTCACTTGGTG A CTGGAGAATTCA[A/GJAAGTCAAGAA CATGCTAAGCATA AG
2601	2873
cg43275028 2601	cg43275028
335	336

1 (1923)	1 (1923)
3.20E-65 1 (1qz3)	3.20E-65
Human Gene Similar to SWISSPROT-ID:P70490 MILK FAT GLOBULE-EGF FACTOR 8 PRECURSOR (MFG-E8) (O- ACETYL GD3 GANGLIOSIDE SYNTHASE) (AGS) (MFGM) - RATTUS NORVEGICUS (RAT), 427 aa. pcls:SPTREMBL-ID:P70490 O- ACETYL GD3 GANGLIOSIDE SYNTHASE - RATTUS NORVEGICUS (RAT), 427 aa.	Human Gene Similar to SWISSPROT-ID:P70490 MILK FAT GLOBULE-EGF FACTOR 8 PRECURSOR (MFG-E8) (O- ACETYL GD3 GANGLIOSIDE SYNTHASE) (AGS) (MFGM) - RATTUS NORVEGICUS (RAT), 427 aa.jpcls:SPTREMBL-ID:P70490 O- ACETYL GD3 GANGLIOSIDE SYNTHASE - RATTUS NORVEGICUS (RAT), 427 aa.
synthase	synthase
SILENT- NONCODI NG	SILENT- NONCODI NG
<u>o</u>	σ
<u>ح</u>	∢
TTCAAAAGTCAAG A AACATGCTAAGC[A/G]TAAGGGACCC AAGGTAGAAAGA GAT	TTCTCCTTCCAGA ATGAGGCCCTGG A/GJAGGACCCTCC TAGTGATCTGTTA CT
2894	3073
cg43275028 2894	cg43275028
337	338

1 (1923)	4	17	1 (1p31.2)
3.20E-65	1.60E-236	2.00E-220	4.80E-212
Human Gene Similar to SWISSPROT-ID:P70490 MILK FAT GLOBULE-EGF FACTOR 8 PRECURSOR (MFG-E8) (O- ACETYL GD3 GANGLIOSIDE SYNTHASE) (AGS) (MFGM) - RATTUS NORVEGICUS (RAT), 427 aa. jpcls:SPTREMBL-ID:P70490 O- ACETYL GD3 GANGLIOSIDE SYNTHASE - RATTUS NORVEGICUS (RAT), 427 aa.	Human Gene SWISSPROT- ID:P25101 ENDOTHELIN-1 RECEPTOR PRECURSOR (ET-A) - HOMO SAPIENS (HUMAN), 427 aa.	Human Gene SWISSPROT- ID:P51575 P2X PURINOCEPTOR 1 (ATP RECEPTOR) (P2X1) (PURINERGIC RECEPTOR) - HOMO SAPIENS (HUMAN), 399 aa.	Human Gene SWISSPROT- ID:P43115 PROSTAGLANDIN E2 RECEPTOR, EP3 SUBTYPE (PROSTANOID EP3 RECEPTOR) (PGE RECEPTOR, EP3 SUBTYPE) - HOMO SAPIENS (HUMAN), 390 aa.
synthase	tm7	tm7	tm7
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
	<u></u>		
<u>o</u>	<u>ග</u>	O	<u>ن</u>
V -0 1	0 0	O	<u> </u>
ACTACATAAGGAC AAGCACAGACACAGGACATGCATGCTGAGAATTGTCTTACTCTTACTTA	GAAAAAATCACA AGGCAACTGTGA[C/GJTCCGGGAATC TCTTCTCTGATCC	TCCGACCCCACA CACCCTGAGGGA G[C/G]CCTACCCT AGCCTCAGCCGC	ATAATCCATGCCT CTGAATATTAGA[T /G]TGGTTTCTTGG ATGGGATTTTGAA T
5590	1856	1684	1603
	cg43985000	cg39565524	cg43306266
339	340	341	342

1 (1p31.2) 1 (1p31.2)	
	
4.80E-212 1 (1p31.2) 4.80E-212 1 (1p31.2)	
Human Gene SWISSPROT- ID:P43115 PROSTAGLANDIN E2 RECEPTOR, EP3 SUBTYPE (PROSTANOID EP3 RECEPTOR) (PGE RECEPTOR, EP3 SUBTYPE) HOMO SAPIENS (HUMAN), 390 aa. Human Gene SWISSPROT- ID:P43115 PROSTAGLANDIN E2 RECEPTOR, EP3 SUBTYPE (PROSTANOID EP3 RECEPTOR)	(PGE RECEPTOR, EP3 SUBTYPE) - HOMO SAPIENS (HUMAN), 390 aa.
tm7	
SILENT- tm7 NONCODI NG SILENT- tm7 NONCODI NG	
o o	
g gab	
GGGATTTTGAATA gap TGCATTTAAGAA[g ap/C]GTTGGGAAG AATTTCACAGATG ATG AGAAGTTGGGAA[G AGAAGTTCACAG AGAAGTTCACAG ATGATTGAAT G ATGATTGAAG ATGATTGAAG ATGATTGGAAG ATGATTGAAG ATGATTGAAT G ATGATTGAAG ATGATTGAAT G ATGATTGAAT G ATGATTGAAG ATGATTGAAT G ATGATTGAAT ATGATTGAAT G ATGATTGAAT G ATGATTGAAT G ATGATTGAAT A	GA
1641	
cg43306266 1641	

	×
8.20E-201	2.00E-197 X
Human Gene SWISSNEW- ID:Q99527 CHEMOKINE RECEPTOR-LIKE 2 (IL8-RELATED RECEPTOR DRY12) (FLOW- INDUCED ENDOTHELIAL G PROTEIN-COUPLED RECEPTOR) (FEG-1) (G PROTEIN-COUPLED RECEPTOR GPR30) (GPCR-BR)- HOMO SAPIENS (HUMAN), 375 aa.lpcls:SWISSPROT-ID:Q99527 CHEMOKINE RECEPTOR-LIKE 2 (IL8-RELATED RECEPTOR DRY12) (FLOW-INDUCED ENDOTHELIAL G PROTEIN-COUPLED RECEPTOR) (FEG-1) (G PROTEIN-COUPLED RECEPTOR GPR30) - HOMO SAPIENS (HUMAN), 375 aa.lpcls:TREMBLNEW-ID:G2656121 G-PROTEIN COUPLED RECEPTOR	- HOMO SAPIENS (HUMAN), 375 aa. Human Gene SWISSPROT- ID:P50052 TYPE-2 ANGIOTENSIN II RECEPTOR (AT2) - HOMO SAPIENS (HUMAN), 363 aa.
tm7	tm7
SILENT- NONCODI NG	SILENT- NONCODI NG
<u> </u>	ပ
ပ	gap
TCGGCAAATCTTG AAAGCTGCAGGG[CT]GCAGAGACT GGATGTGACTTCC CA	AAGGCATAAGAAC gap TAGGAGCTGCTG[gap/GJACATTTCAA TATGAAGGGCAAC
683	439
cg43329467 683	cg2751286
345	346

	1	T	
	-		3
3.20E-176	1.10E-173	1.10E-173	6.90E-109 3 (
Human Gene SWISSPROT- ID:P46089 PROBABLE G PROTEIN- COUPLED RECEPTOR GPR3 (ACCA ORPHAN RECEPTOR) - HOMO SAPIENS (HUMAN), 330 aa.	Human Gene SWISSPROT- ID:P30542 ADENOSINE A1 RECEPTOR - HOMO SAPIENS (HUMAN), 326 aa.	Human Gene SWISSPROT- ID:P30542 ADENOSINE A1 RECEPTOR - HOMO SAPIENS (HUMAN), 326 aa.	Human Gene Homologous to SWISSPROT-ID:P31421 METABOTROPIC GLUTAMATE RECEPTOR 2 PRECURSOR - RATTUS NORVEGICUS (RAT), 872 aa.
tm7	tm7	tm7	tm7
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
<u> </u>	—	U	Ø
ن د	U	ڻ د	⋖
GAATGTGGGGAT C AAGGCATTGGGA C[C/T]CTATCAGGT ATCCTGAGGAGA GACT	CAGCCGGGAGCT C CTGCCAGCTTTGG [C/T]GAAGGAGGG TGCTTGCCTCGTG CCC	CGGGAGCTCTGC CAGCTTTGGCGAA [G/C]GAGGGTGCT TGCCTCGTGCCC CTTG	TGCTCTTGCTGCT A GATGGAGGAGGA[A/G]GGGGTGGAT CCCGTGGAGCCT CCAA
92	135	139	1839
cg11751407 76	cg43326635	cg43326635	cg43993798
347	348	349	350

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2.90E-74	2.90E-74
Human Gene Similar to SWISSPROT-ID:Q25322 TYRAMINE/OCTOPAMINE RECEPTOR 2 (TYR-LOC 2) - LOCUSTA MIGRATORIA (MIGRATORY LOCUST), 484 aa. Ipcls:SPTREMBL-ID:Q25322 GCR2 (G PROTEIN-COUPLED RECEPTOR) - LOCUSTA MIGRATORIA (MIGRATORY	Human Gene Similar to SWISSPROT-ID:Q25322 TYRAMINE/OCTOPAMINE RECEPTOR 2 (TYR-LOC 2) - LOCUSTA MIGRATORIA (MIGRATORY LOCUST), 484 aa.lpcis:SPTREMBL-ID:Q25322 GCR2 (G PROTEIN-COUPLED RECEPTOR) - LOCUSTA MIGRATORIA (MIGRATORY
tm7	tm7
SILENT- NONCODI NG	SILENT- NONCODI NG
O	⊢
4	<u>ග</u>
ATGCTTCCCCCAA A CCCTAGGGAATC! ACJACACTTAAGA TAATTCGCCACTT CT	CCAACCCTAGGG AATCAACACTTAA(G/TJATAATTCGCC ACTTCTCCTCTTT CT
cg43040271 2130	cg43040271 2139
351	352

	5 (5q32)	5 (5 (5q32)
2.90E-74	2.00E-58	2.00E-58	2.00E-58
Human Gene Similar to SWISSPROT-ID:Q25322 TYRAMINE/OCTOPAMINE RECEPTOR 2 (TYR-LOC 2) - LOCUSTA MIGRATORIA (MIGRATORY LOCUST), 484 aa. pcls:SPTREMBL-ID:Q25322 GCR2 (G PROTEIN-COUPLED RECEPTOR) - LOCUSTA MIGRATORIA (MIGRATORY LOCUST), 484 aa.	Human Gene Similar to SWISSPROT-ID:Q24563 DOPAMINE RECEPTOR 2 - DROSOPHILA MELANOGASTER (FRUIT FLY), 539 aa.	Human Gene Similar to SWISSPROT-ID: Q24563 DOPAMINE RECEPTOR 2 - DROSOPHILA MELANOGASTER (FRUIT FLY), 539 aa.	Human Gene Similar to SWISSPROT-ID:Q24563 DOPAMINE RECEPTOR 2 - DROSOPHILA MELANOGASTER (FRUIT FLY), 539 aa.
tm7	tm7	tm7	tm7
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG
H	O	ပ	ပ
O	F	⋖	U
AGATAATTCGCCA CTTCTCCTCTTTC MJTCTCTGCTCCG CTCACGGCTTGCA G	CGCAGAGCCCCG CCGTGGGTCCGC C[T/C]GCTGAGGC GCCCCAGCCAG	CAGCGCCTTCTTG CTGGCACCCAAT[A/G]GAAGCCATGC GCCGGACCACGA GCCGGACCACGA	TGCGCCGGACCA CGACGTCACGCA G[C/G]AAAGGGAC GAGGTGTGGGTG GTGGG
2163	1668	1760	1793
cg43040271 2163	cg43040273	cg43040273	cg43040273
353	354	355	356

5 (5q32)	5 (5q32)	5 (5q32)	12	12
2.00E-58	2.00E-58	2.00E-58	1.70E-177	1.70E-177
Human Gene Similar to SWISSPROT-ID:024563 DOPAMINE RECEPTOR 2 - DROSOPHILA MELANOGASTER (FRUIT FLY), 539 aa.	Human Gene Similar to SWISSPROT-ID:Q24563 DOPAMINE RECEPTOR 2 - DROSOPHILA MELANOGASTER (FRUIT FLY), 539 aa.	Human Gene Similar to SWISSPROT-ID:Q24563 DOPAMINE RECEPTOR 2 - DROSOPHILA MELANOGASTER (FRUIT FLY), 539 aa.	transcriptfac Human Gene SPTREMBL- ID:Q07279 TRANSCRIPTION FACTOR NF-E2 - MUS MUSCULUS (MOUSE), 373 aa.	transcriptfac Human Gene SPTREMBL- ID:Q07279 TRANSCRIPTION FACTOR NF-E2 - MUS MUSCULUS (MOUSE), 373 aa.
tm7	tm7	tm7	transcriptfac tor	transcriptfac tor
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- tra NONCODI tor NG	SILENT- tra NONCODI tor NG
o	<	4		U
O	O	gap	gap	ق ق
GCAGGTCTTCTTT GAAGGCCTATGG[G/CJAATGGCTACT CCAGCAACGGCA ACA	ATTGTAGTACAAA TGACTCACTGCT[G/A]TAAAGCAGTT TTCTACTTTTAAA G	ATAAACTTAGAAT AAAATTGTAAAAIg ap/AJTTGTATAGAG ATATGCAGAAGGA AG	AGGGGTGGAACT GCTGATGGGATTT [gap/T]CCTTCATTC CCTTCTGATAAAG GTA	AGCCTCCCCAGA GACAACACCGGG AGCJCCTCATCTC TCTCCTCACCTG CTG
2767	2953	3053	1501	249
cg43040273 2767	cg43040273	cg43040273	cg43998970	cg43998970
357	358	359	360	361

		5 (5p15.3)	
8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	ω	(5)	-
4.20E-158	6.90E-68		
		<u>о</u>	0
transcriptfac Human Gene SWISSNEW- ID:P23193 TRANSCRIPTION ELONGATION FACTOR S-II (TRANSCRIPTION ELONGATION FACTOR A) - HOMO SAPIENS (HUMAN), 301 aa. pcls:SWISSPROT-ID:P23193 TRANSCRIPTION ELONGATION FACTOR S-II (TRANSCRIPTION ELONGATION FACTOR A) - HOMO SAPIENS (HUMAN), 301 aa.	transcriptfac Human Gene Similar to tor TREMBLNEW-ID:G2920821 TRANSCRIPTION FACTOR T-BOX 5 - HOMO SAPIENS (HUMAN), 518 aa.	Human Gene SWISSPROT- ID:Q01959 SODIUM-DEPENDENT DOPAMINE TRANSPORTER (DA TRANSPORTER) (DAT) - HOMO SAPIENS (HUMAN), 620 aa.	Human Gene SWISSPROT. ACC:P02545 LAMIN A (70 KD LAMIN) - Homo sapiens (Human), 664 aa.
transcriptfac tor	transcriptfac tor	transport	ASSI
SILENT- tran NONCODI tor NG	SILENT- trainon NONCODI tor NG	SILENT- NONCODI NG	SILENT- UNC NONCODI FIED NG
⊢	ව	O	⋖
U	⋖	-	gap
GTCTTCTCCGCGC C CCACCCGCTGG C/TAAGGGGAAGT GGGCGAAGCTGG AGC	GGGGCCGGGCAC TGCCCAGGAAGG G[A/G]CTCCGGGA GAGGGAGCCGGC GGCTG	AGACGAAGACCC CAGGAAGTCATCC [T/C]GCAATGGGA GAGACACGAACA AACC	CCCACGCCTGCC AGGAGCAAGCCG A[gap/A]GAGCCAG CCGGCCGGCGCA CTCCGA
2623	934	2030	237
cg43947199 2623	cg43917396	cg40351913	cg43921289
362	363	364	365

16	16	16		17 (17q11)
0	0	0	0	0
Human Gene SWISSPROT- ACC:Q14687 HYPOTHETICAL PROTEIN KIAA0182 - Homo sapiens (Human), 1157 aa (fragment).	Human Gene SPTREMBL- ACC:Q16084 P130 - HOMO SAPIENS (HUMAN), 1139 aa.	Human Gene SPTREMBL- ACC:Q16084 P130 - HOMO SAPIENS (HUMAN), 1139 aa.	Human Gene SWISSPROT- ACC:P42566 EPIDERMAL GROWTH FACTOR RECEPTOR SUBSTRATE SUBSTRATE 15 (PROTEIN EPS15) (AF-1P PROTEIN) - Homo sapiens (Human), 896 aa.	Human Gene SWISSPROT- ACC:P53675 CLATHRIN HEAVY CHAIN 2 (CLH-22) - Homo sapiens (Human), 1640 aa.
UNCLASSI FIED	UNCLASSI	UNCLASSI	UNCLASSI	UNCLASSI FIED
SILENT- UNC NONCODI FIED NG	SILENT- UNC NONCODI FIED NG	SILENT- UNC NONCODI FIED NG	SILENT- UNC NONCODI FIED NG	SILENT- UNC NONCODI FIED NG
O	O	ပ	ပ	ပ
⋖	ပ	⋖.	⋖	⋖
AAACAAATAAGCC CTTTTACTGACJA /GJATGCACCCAAC CTTTCAGCTGAA G	AGAGTCAAAAATC CAAGTTTGGATT[C /GJTAAGCAGCCTT GACAGTAATCACT G	AAGCAGCCTTGAC A AGTAATCACTGA[A /GJTGGTAGGGAAA AAAAGACAGTTGG G	AGGCAAAAGCTCA CAGTAAATGTATĮA /CJCCAGAACAGG GGCCTAAGTGAA GGT	CTGCTCCCANCTT CGCCAGCCTCCA[A/GJTGTACAACTT CCGCGTGTAGTG GGC
3196	1309	1336	2206	4893
cg43928515	cg43955093	cg43955093	cg43925474	cg44014437
366	367	368	369	370

17 (17q11)	20 (20pter)	21 (21q22.1)	222 (22q13.1)
0			
Human Gene SWISSPROT- ACC:P53675 CLATHRIN HEAVY CHAIN 2 (CLH-22) - Homo sapiens (Human), 1640 aa.	Human Gene SWISSPROT. ACC:P05060 SECRETOGRANIN I PRECURSOR (SGI) (CHROMOGRANIN B) - Homo sapiens (Human), 677 aa.	Human Gene SWISSNEW- ACC:Q13009 T-LYMPHOMA INVASION AND METASTASIS INDUCING PROTEIN 1 (TIAM1 PROTEIN) - Homo sapiens (Human), 1591 aa.	Human Gene SWISSPROT. ACC:P13866 SODIUM/GLUCOSE COTRANSPORTER 1 (NA(+)/GLUCOSE COTRANSPORTER 1) (HIGH AFFINITY SODIUM-GLUCOSE COTRANSPORTER) - Homo sapiens (Human), 664 aa.
ASSI	LASSI	ASSI	UNCLASSI
SILENT- UNC NONCODI FIED NG	SILENT- UNC NONCODI FIED NG	SILENT- UNC NONCODI FIED NG	SILENT- NONCODI NG
O	∢	—	—
∢	O	O	O
CTGCTCCCAACTT CGCCAGCCTCCA[A/GJTGTACAACTT CCGCGTGTAGTG GGC	CACTTCACTGAAA GACACCATTTATIC AJTACCCAAGGGC AGAAGTAGAACT T	GATAGGACTCAAG CTTATTTGGGAT[C /T]CTGATCAATTC TTCTGATGTTGT T	TACAGCCATCTGT ACCTACTGGAGG[C/TJGCAGAAGGG AAGTCCACTCAGT CAC
5114	2242	1939	2416
cg44014448	cg43973129	cg43950657	cg43956384
371	372	373	374

X (Xp22.3)			10	2
0	0	0	1.60E-292	1.20E-280
Human Gene SWISSPROT- ACC:P23352 KALLMANN SYNDROME PROTEIN PRECURSOR (ADHESION MOLECULE-LIKE X-LINKED) - Homo sapiens (Human), 680 aa.	Human Gene TREMBLNEW- ACC:AAD23581 CULLIN 2 - HOMO SAPIENS (HUMAN), 745 aa.	Human Gene TREMBLNEW- ACC:AAD23581 CULLIN 2 - HOMO SAPIENS (HUMAN), 745 aa.	Human Gene TREMBLNEW- ACC:CAA08974 GUANINE NUCLEOTIDE-EXCHANGE FACTOR - HOMO SAPIENS (HUMAN), 548 aa.	Human Gene SWISSPROT- ACC:P38567 HYALURONIDASE PRECURSOR (EC 3.2.1.35) (SPERM SURFACE PROTEIN PH- 20) (SPERM ADHESION MOLECULE 1) - Homo sapiens (Human), 509 aa.
UNCLASSI	UNCLASSI FIED	UNCLASSI FIED	UNCLASSI	UNCLASSI FIED
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- UNC NONCODI FIED NG	SILENT- UNC NONCODI FIED NG	SILENT- NONCODI NG
4	—	 -	}-	∢
O	₹	4	⋖	 -
AGCAGTGCAGCC CCGGCGCGGAGC A[G/A]GGAGCCTC GGCCCGCGCCCG	GAGAAAAGCATG A GTACCCAACCGA[ATTTTCCACTTT CAGCAATACTTCA C	TAAAGTTTTAAGA AATGTCATAATGA /TJCATGAGCTTGA AATATCTCTAGGC	AGCAAAGAAACAC A TGGCAGAATTCC[A/TJGCATTTGCAA AATTCTAAGTTTT GG	AAATAAATGTTTT CATAGTCATTACĮT AJCTTTACAATGG GAGTGCTAAAATT C
101	260	323	1121	366
cg43992229	cg44932392	cg44932392	cg43981656	cg44910613
375	376	377	378	379

F			
(Xp22.1)		2 (
4.70E-261 X	2.10E-258 7	7.00E-251	4.80E-213
Human Gene SWISSPROT- ACC:P37287 N- ACETYLGLUCOSAMINYL- PHOSPHATIDYLINOSITOL BIOSYNTHETIC PROTEIN (GLCNAC-PI SYNTHESIS PROTEIN) (PHOSPHATIDYLINOSITOL GLYCAN COMPLEMENTATION CLASS A) (PIG-A) - Homo sapiens (Human), 484 aa.	Human Gene SPTREMBL- ACC:P78506 DIABETES MELLITUS TYPE I AUTOANTIGEN (ISLET CELL AUTOANTIGEN P69) - HOMO SAPIENS (HUMAN), 483 aa.	Human Gene SWISSPROT- ACC:P11926 ORNITHINE DECARBOXYLASE (EC 4.1.1.17) (ODC) - Homo sapiens (Human), 461 aa.	Human Gene SWISSPROT- ACC:P32754 4- HYDROXYPHENYLPYRUVATE DIOXYGENASE (EC 1.13.11.27) (4HPPD) (HPD) - Homo sapiens (Human), 392 aa.
IASSI	LASSI	UNCLASSI FIED	LASSI
SILENT- NONCODI FIED NG	SILENT- UNCI NONCODI FIED NG	SILENT- UNC NONCODI FIED NG	SILENT- UNC NONCODI FIED NG
U	de6	gap	<u></u>
	o o	O	
AACTGGGTTGCTC TAAGAACTGATGIT /CJCTAAACCGTCT CAGCATGGCCTG TA	CAATGCATGAATC (TGTACCCTTCGG[G/gap]AGGGCACT CACATGCCGCCC CCAGC	TTGTTCATGATTT C CTTGATGTTCCT[C /gap]TAATGGAAAA CTAAGAGATGGAA	GCCGAGTCCGCT A GGTGGGCGGACC C[A/T]AGGGGGAGC AGCCAGTAGGGA AGTTG
189	1643	1961	129
cg44035104	cg43929959	cg43950250	cg43064090
380	381	382	383

			4 (4q21.2)	5
4.80E-213	4.80E-213	4.80E-213	1.20E-177	4.20E-166
Human Gene SWISSPROT- ACC:P32754 4- HYDROXYPHENYLPYRUVATE DIOXYGENASE (EC 1.13.11.27) (4HPPD) (HPD) - Homo sapiens (Human), 392 aa.	Human Gene SWISSPROT. ACC:P32754 4- HYDROXYPHENYLPYRUVATE DIOXYGENASE (EC 1.13.11.27) (4HPPD) (HPD) - Homo sapiens (Human), 392 aa.	Human Gene SWISSPROT- ACC:P32754 4- HYDROXYPHENYLPYRUVATE DIOXYGENASE (EC 1.13.11.27) (4HPPD) (HPD) - Homo sapiens (Human), 392 aa.	Human Gene SWISSPROT- ACC:P30968 GONADOTROPIN- RELEASING HORMONE RECEPTOR (GNRH-R) - Homo sapiens (Human), 328 aa.	Human Gene SWISSNEW. ACC:Q16637 SURVIVAL MOTOR NEURON PROTEIN 1 - Homo sapiens (Human), 294 aa.
UNCLASSI	UNCLASSI	UNCLASSI FIED	UNCLASSI FIED	LASSI
SILENT- NONCODI NG	SILENT- UNC NONCODI FIED NG	SILENT- NONCODI NG	SILENT- UNC NONCODI FIED NG	SILENT- UNC NONCODI FIED NG
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4	U	U	⋖	 -
CCGAGTCCGCTG GTGGCCGGACCC A[A/T]GGGGAGCA GCCAGTAGGGAA GTTGG	GGGAGCAGCCAG TAGGGAAGTTGG G[C/G]GAGTTCCA GAATCAGGGGGC GTGGC	TAATCGGGAGGG CTGGAGCAGAGG G[C/G]GGCCCCGC CGAGGGGCCTGG TCAGT	4-40	GTCTTTTACAGAT GGTTTTTCAAAA[T /gapJAGAGTCCAG TAAAATATTTCAC ATT
130	157	61	3296	381
cg43064090 130	cg43064090	cg43064090		cg43924431
384	385	386	387	388

				γ
13	1 (1p22)			
4.30E-164 1	7.70E-158 1	4.90E-156 2	1.10E-150 6	1.90E-138 7
Human Gene TREMBLNEW- ACC:AAD40550 P38IP - HOMO SAPIENS (HUMAN), 733 aa.	Human Gene SWISSNEW- ACC:P13726 TISSUE FACTOR PRECURSOR (TF) (COAGULATION FACTOR III) (THROMBOPLASTIN) (CD142 ANTIGEN) - Homo sapiens (Human), 295 aa.	Human Gene SPTREMBL- ACC:Q92600 PROTEIN INVOLVED IN SEXUAL DEVELOPMENT, COMPLETE CDS - HOMO SAPIENS (HUMAN), 299 aa.	Human Gene Homologous to TREMBLNEW-ACC:AAC69899 SACM21 - MUS MUSCULUS (MOUSE), 721 aa.	Human Gene Homologous to TREMBLNEW-ACC:AAD23440 LR8 - HOMO SAPIENS (HUMAN), 270 aa.
LASSI	UNCLASSI	UNCLASSI FIED	UNCLASSI FIED	LASSI
SILENT- UNC NONCODI FIED NG	SILENT- UNC NONCODI FIED NG	SILENT- UNC NONCODI FIED NG	SILENT- UNC NONCODI FIED NG	SILENT- UNC NONCODI FIED NG
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U	⋖	ပ	<u> </u>	O
CGTTGTTCCTAAT GTGGATCTACCA C/TICCCTGTGTTC ATCGAGATTCCGG	TGGGATTACAGGT GCGCACTACCAC[A/GJCCAAGCTAAT TTTGTATTTTTA G	CCTTCAGCACCCC TGCAGCGGAAAI C/TJAATGAGCCGC CGTAGCCGCCAT CCG	AAAAAGCTACAGA AAAGAAATCACT[T /CJTGAAAAACACA ATGACTCAGAGG CA	CAGGGACATGCG GGCACCCCGTGG G[G/gap]TCTTTGG CGGCTCACAGGA
209	1542	2065	176	418
cg43936047	cg43272443	cg43966848	cg43964140	cg43285114
389	390	391	392	393

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3.30E-125 11	2.70E-123	6.90E-118
Human Gene Hc nologous to SWISSNEW-AC ::P18582 CD81 ANTIGEN (26 Kl CELL SURFACE PROTEIN TAPA 1) - Homo sapiens (Human), 236 a:	Human Gene Himologous to SPTREMBL-AC ::Q15025 MRNA (HA1652) FOR 3RF, PARTIAL CDS - HOMO SAPIE IS (HUMAN), 296 aa (fragment).	Human Gene H Imologous to SWISSPROT-4 CC:P22061 PROTEIN-L-IS JASPARTATE(D-ASPARTATE) METHYLTRAN FERASE (EC 2.1.1.77) (PRO, EIN-BETA-ASPARTATE METHYLTRANSFERASE) (PIMT) (PROTEIN L-ISOASPARTYLD-ASPARTYL METHYLTRANSFERASE) (L-ISOASPARTYL METHYLTRANSFERASE) (L-ISOASPARTYL METHYLTRANSFERASE) - Homo sapiens (Human), 226 aa.
UNCLASSI Human Gene Hc nologous to FIED SWISSNEW-AC ::P18582 CE ANTIGEN (26 K) CELL SUR PROTEIN TAPA 1) - Homo sc (Human), 236 a:	Human Gene H SPTREMBL-AC (HA1652) FOR - HOMO SAPIE (fragment).	Human Gene H imologous to SWISSPROT-, CC:P22061 PROTEIN-L-IS JASPARTATE(ASPARTATE)
UNCLASSI	UNCLASSI	UNCLASSI
SILENT- UNC NONCODI FIED NG	SILENT- UNCI NONCODI FIED NG	SILENT- NONCODI FIED NG
gap	ඉ	⋖
	٧	⊢
GCAGGCAGAGCA CCCTGGGACCCC A[G/gap]GGCAGAA GGACCCCTGCCC TCCAGT	TAAACAGCTCAGT TCAGGGACTGGT[A/GJTACAAGCTGG CCACCCATCTCAG CC	TTACAGGACATCA CCTGCCATCTTA[I A]GGTTTAATATTT ACAAATGCCTAGT
370	649	259
cg43948566 370	cg44003626	cg43917206
394	395	396

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8	12	12	22.
2.50E-111	2.90E-110	2.90E-110	1.20E-106 27 (2.2)
Human Gene Homologous to SPTREMBL-ACC:000559 CANCER ASSOCIATED SURFACE ANTIGEN - HOMO SAPIENS (HUMAN), 213 aa.	Human Gene Homologous to SPTREMBL-ACC:P97314 DOUBLE LIM PROTEIN-1 - MUS MUSCULUS (MOUSE), 193 aa.	Human Gene Homologous to SPTREMBL-ACC:P97314 DOUBLE LIM PROTEIN-1 - MUS MUSCULUS (MOUSE), 193 aa.	Human Gene Homologous to SWISSPROT-ACC:P15018 LEUKEMIA INHIBITORY FACTOR PRECURSOR (LIF) (DIFFERENTIATION- STIMULATING FACTOR) (D FACTOR) (MELANOMA-DERIVED LPL INHIBITOR) (MLPLI) - Homo sapiens (Human), 202 aa.
UNCLASSI FIED	UNCLASSI FIED	UNCLASSI FIED	UNCLASSI
SILENT- NONCODI NG	SILENT- NONCODI NG	SILENT- UNC NONCODI FIED NG	SILENT- NONCODI NG
—	F	–	<u> </u>
O	ပ	ပ	∢
GGCCGATTTTCC C ACAATTTAAATC[C //ICAGTTCACCTG GTATCCAGCTCCA	GTTTCCACCTCCC CAGACAGGCATT C/TCGAGTGGGA GGCGGGAGCACG TACC	TTTCCACCTCCCC AGACAGGCATTCI C/TJGAGTGGGAG GCGGGAGCACGT ACCG	CTAAACCCAAATG A GGGGCTGCTGGC[ATJGACCCCGAG GGTGCCTGGCCA GTCC
215	840	841	1030
cg43289666 215	cg43986282	cg43986282	og43297716 1030
397	398	399	400

7.90E-101 8 (8q22)			
8	<u>0</u>	8	00
7.90E-	1.00E-100	1.60E-	1.60E-1
Human Gene Homologous to SWISSPROT-ACC:P34741 SYNDECAN-2 PRECURSOR (FIBROGLYCAN) (HEPARAN SULFATE PROTEOGLYCAN CORE PROTEIN) (HSPG) (SYND2) - Homo sapiens (Human), 201 aa.	Human Gene Similar to SPTREMBL-ACC:043399 HD54+INS2 ISOFORM-HOMO SAPIENS (HUMAN), 206 aa.	Human Gene Similar to SWISSNEW- 1.60E-100 ACC:P11686 PULMONARY SURFACTANT-ASSOCIATED PROTEIN C PRECURSOR (SP-C) (SP5) (PULMONARY SURFACTANT-ASSOCIATED PROTEOLIPID SPL(VAL)) - Homo sapiens (Human), 197 aa.	Human Gene Similar to SWISSNEW- 1.60E-100 ACC:P11686 PULMONARY SURFACTANT-ASSOCIATED PROTEIN C PRECURSOR (SP-C) (SP5) (PULMONARY SURFACTANT-ASSOCIATED PROTEOLIPID SPL(VAL)) - Homo sapiens (Human), 197 aa.
UNCLASSI	UNCLASSI FIED	UNCLASSI	UNCLASSI
SILENT- NONCODI FIED NG	SILENT- UNC NONCODI FIED NG	SILENT- UNCI NONCODI FIED NG	SILENT- NONCODI NG
F	L	deb	ව
U	O	O	4
TTTTATCATTAAAG TGCCAGAATGG[C/ TJTCTTTAATGAAA ACAAAAAACAAAG	GGAGGGTTGGAG TCACTGACGAATG [C/TJGAGCCGGGC CAGGCCCATGCA AAGG	GCCACCTGCCCG GGCTGTGGAGGA G[C/gap]GCTCGCG CTGACCAGGCGC TGGGGC	GCTTCTGCCCACA A CCGCAGGGACAA(A/G)CCCTGGAGAA ATGGGAGCNTGG GGA
2160	624	881	1124
l .	cg43939240	cg43941552	cg43941552
401	402	403	404

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7	55	10	10	10
2.10E-100	5.30E-95	3.40E-93	3.40E-93	3.40E-93
	5.30	3.40	3.4	4.8
Human Gene Similar to SWISSPROT-ACC:P45973 HETEROCHROMATIN PROTEIN 1 HOMOLOG ALPHA (HP1 ALPHA) (ANTIGEN P25) - Homo sapiens (Human), 191 aa.	Human Gene Similar to SWISSPROT-ACC:P30536 PERIPHERAL-TYPE BENZODIAZEPINE RECEPTOR (PBR) (PKBS) (MITOCHONDRIAL BENZODIAZEPINE RECEPTOR) - Homo sapiens (Human), 169 aa.	Human Gene Similar to SWISSPROT-ACC:P36405 ADP- RIBOSYLATION FACTOR-LIKE PROTEIN 3 - Homo sapiens (Human), 182 aa.	Human Gene Similar to SWISSPROT-ACC:P36405 ADP- RIBOSYLATION FACTOR-LIKE PROTEIN 3 - Homo sapiens (Human), 182 aa.	Human Gene Similar to Hunssprot-ACC:P36405 ADP- RIBOSYLATION FACTOR-LIKE PROTEIN 3 - Homo sapiens (Human), 182 aa.
UNCLASSI	UNCLASSI	UNCLASSI FIED	UNCLASSI	UNCLASSI I FIED
SILENT- NONCODI NG	SILENT. UNCI NONCODI FIED NG	SILENT- UNCI NONCODI FIED NG	SILENT- NONCODI NG	SILENT- UNCI NONCODI FIED NG
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	(0)	U	∢	O
CATTICICITIGI C ACATAATACATI[C MJACCICCTGCC TCCTCTCTTCT	CAGGGGTCAGCA G GAGCTTCAGAGG TIG/TIGCCCCACC TGAGCCCCCACC	CAGAAAGCAGCA (AATTAGTGAAATAGTGTTTTT[C/A]AGGACCGAATTCGGCTCCCGCA	140F	
914	878	507	511	547
cg42917153 9	cg43927693 E	cg43951338	cg43951338	cg43951338
405	406	407	408	409

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.20E-91		7.20E-91	7.20E-91
Human Gene Similar to SWISSNEW- 7.20E-91 ACC:P01185 VASOPRESSIN- NEUROPHYSIN 2-COPEPTIN PRECURSOR [CONTAINS: ARG- VASOPRESSIN; NEUROPHYSIN 2 (NEUROPHYSIN-II); COPEPTIN] - Homo sapiens (Human), 164 aa.	Human Gene Similar to SWISSNEW- ACC:P01185 VASOPRESSIN- NEUROPHYSIN 2-COPEPTIN PRECURSOR [CONTAINS: ARG- VASOPRESSIN; NEUROPHYSIN 2 (NEUROPHYSIN-II); COPEPTIN] - Homo sapiens (Human), 164 aa.	Human Gene Similar to SWISSNEW- 7.20E-91 ACC:P01185 VASOPRESSIN- NEUROPHYSIN 2-COPEPTIN PRECURSOR [CONTAINS: ARG- VASOPRESSIN; NEUROPHYSIN 2 (NEUROPHYSIN-II); COPEPTIN] - Homo sapiens (Human), 164 aa.	Human Gene Similar to SWISSNEW-ACC:P01185 VASOPRESSIN-NEUROPHYSIN 2-COPEPTIN PRECURSOR [CONTAINS: ARGVASOPRESSIN; NEUROPHYSIN 2 (NEUROPHYSIN-II); COPEPTINI Homo sapiens (Human), 164 aa.
ASSI	UNCLASSI	UNCLASSI	UNCLASSI
SILENT- UNCI NONCODI FIED NG	SILENT- NONCODI NG	SILENT- UNCI NONCODI FIED NG	SILENT- NONCODI FIED NG
		-	
	 	F	F
D dap	O	U	O
CCCGCCCAGCCC g GACGCCTACTGA G[gap/T]CCCCGCG CTCGCCCCACCG	CCAGCCCGACGC CTACTGAGGCCC GICATGCTCGCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	AGCCCGACGCCT ACTGAGCCCCGC G[C/T]TCGCCCCA CCGGCGCGCTCT TCGCG	CGACGCCTACTG AGCCCGCGCTC G[C/T]CCCACCGG CGCGCTCTTCGC GCCCG
	1240	1242	1246
cg25236776 1234	cg25236776	cg25236776	cg25236776
410	411	412	413

X (Xp11.4)	(11p15.2)	7		11
	2.00E-70	1.60E-67	4.30E-66	4.30E-66
Human Gene Similar to REMTREMBL-ACC:E47283 DNA FOR ORF1 AND ORF2 FROM CHROMOSOME X - HOMO SAPIENS (HUMAN), 157 aa.	Human Gene Similar to SWISSNEW- 2.00E-70 ACC:P01258 CALCITONIN PRECURSOR - Homo sapiens (Human), 141 aa.	Human Gene Similar to TREMBLNEW-ACC:AAD39844 HSPC028 - HOMO SAPIENS (HUMAN), 419 aa.	Human Gene Similar to TREMBLNEW-ACC:AAD29427 MYOMEGALIN - RATTUS NORVEGICUS (RAT), 2324 aa.	Human Gene Similar to TREMBLNEW-ACC:AAD29427 MYOMEGALIN - RATTUS NORVEGICUS (RAT), 2324 aa.
ASSI	UNCLASSI	UNCLASSI FIED	UNCLASSI FIED	UNCLASSI
SILENT- UNCI NONCODI FIED NG	SILENT- NONCODI NG	SILENT- UNCI NONCODI FIED NG	SILENT- NONCODI NG	SILENT- UNCI NONCODI FIED NG
∢	<u></u>	gap	deb	gap
	U	—	∢	⋖
GCTACGTTTACTC gap ACAGCCAGCGAA[gap/A]CTGACATTA ACAATAACTAACAA	CGCCTCTGATCCA CAGCACCTCCCGCCCCCCCCCCCCCC	AA CTCTGCACAAGG GAAGCCTATCCTA [T/gap]TTTTTTTT CCTTTGCGAAAAC	AGA AATGCCTCAGATC AGTGACCCAAGG A/gap/ACCTTCCAG AATGGATGAAATA	GAC ATGCCTCAGATCA GTGACCCCAAGGAI AyapjCCTTCCAGA ATGGATGAAATAG ACC
1362	104	356	1119	1120
cg43968406 1	cg42748886	cg43969533	cg43976681	cg43976681
414	415	416	417	418

. 19	9 (9q22)		-
7.30E-66	6.60E-65	5.90E-64	2.00E-54
Human Gene Similar to SPTREMBL- 7 ACC:000455 TTF-1 INTERACTING PEPTIDE 20 - HOMO SAPIENS (HUMAN), 385 aa (fragment).	ilar to C:P05062 PHOSPHATE C 4.1.2.13) (LIVER- E) - Homo sapiens	(Human), 363 aa. Human Gene Similar to SPTREMBL- 5.90E-64 ACC:O76087 GAGE-8 - HOMO SAPIENS (HUMAN), 117 aa.	Human Gene Similar to SWISSNEW- 2.00E-54 ACC:P47992 LYMPHOTACTIN PRECURSOR (CYTOKINE SCM-1) (ATAC) (LYMPHOTAXIN) (SCM-1- ALPHA) - Homo sapiens (Human), 114 aa.
ASSI	ASSI	UNCLASSI	UNCLASSI
SILENT- UNCI NONCODI FIED NG	SILENT- UNCI NONCODI FIED NG	SILENT- NONCODI NG	SILENT- UNC NONCODI FIED NG
			o
0	0	<u>ی</u>	(0)
CCAAGCGGAAGG C CCATTTCCCTGC[C/TJCTTCCTCAGT TGTCCGGGGCGG	GGG CTAATTGTGTCGA ATTTCCAGGATT[G /A]GAGGAAAAGTT GCTCCCTTTCAGC	AAAGCAATCACAG G TGTTAAAAGAAG[G/a]CACGTTGAAA TGATGCAGGCTG	CTC CCAGCCAGCTCAT G TTCACTTTACAC[G /C]CTCATGGACTG AGTTTATACTCAC C
714	398		
cg43984044 714	cg43933283	cg42381630 577	cg41664708 423
419	420	421	422

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13 - (13q14.3)	17 (17q21.3 2)	17 (17q21.3 2)	17 (17q21.3 2)
,	0	0	0
Human Gene SWISSPROT- 1D:P35670 COPPER- TRANSPORTING ATPASE 2 (EC 3.6.1.36) (COPPER PUMP 2) (WILSON DISEASE-ASSOCIATED PROTEIN) - HOMO SAPIENS (HUMAN), 1465 aa.	Human Gene SWISSPROT- ID:P08514 PLATELET MEMBRANE GLYCOPROTEIN IIB PRECURSOR (GPIIB) (INTEGRIN ALPHA- IIB) (CD41) - HOMO SAPIENS (HUMAN), 1039 aa.	Human Gene SWISSPROT- ID: P08514 PLATELET MEMBRANE GLYCOPROTEIN IIB PRECURSOR (GPIIB) (INTEGRIN ALPHA- IIB) (CD41) - HOMO SAPIENS (HUMAN), 1039 aa.	Human Gene SWISSPROT- ID:P08514 PLATELET MEMBRANE GLYCOPROTEIN IIB PRECURSOR (GPIIB) (INTEGRIN ALPHA- IIB) (CD41) - HOMO SAPIENS (HUMAN), 1039 aa.
CONSER ATPase as	cadherin	cadherin	cadherin
CONSER A	CONSER	CONSER	CONSER
Val (652)	Gly (653)	Asp (654)	Asp (655)
A A	Ala	n Olu	Asn
⊢	O	O	0
o	O	ပ	4
AGCCTTCCCGCA GAAAAAGATGCAG [C/T]CCCCCAGAC CTTCTCTGTGCTG	TACCAGAGGCTG (CATCGGCTGGCGCGCGCGCGCGCGCAGAGTGGCAGAGTTTTGCCGTCGTATTTGGCGTCGTATTTGGCGTCGTATTTGGG	TGGTGGGCGCTC CACTGTATATGGA [G/C]AGCCGGGCA GACCGAAAACTG	CTCTCAACAGGCA A GGCACCACTG[A/G]ACCTGGATCT GGGCGGAAAGCA CAG
	1138	1238	1893
cg43277632 3906	cg40310734	cg40310734	cg40310734
423	424	425	426

9 (9p24)	(11923)	17 (17q25.2)	17 (17q25.2)
0		7.40E-199	7.40E-199
Human Gene SWISSPROT- ID:P98155 VERY LOW-DENSITY LIPOPROTEIN RECEPTOR PRECURSOR (VLDL RECEPTOR) - HOMO SAPIENS (HUMAN), 873 aa.	HOMO D6727 HOMO a.	glucoamylas Human Gene TREMBLNEW- ID:G2826521 MALTASE- GLUCOAMYLASE (EC 3.2.1.20) - HOMO SAPIENS (HUMAN), 1857 aa.	CONSER glucoamylas Human Gene TREMBLNEW- VATIVE e GLUCOAMYLASE (EC 3.2.1.20) - GLUCOAMYLASE (HUMAN), 1857 aa.
ude .	c də	glucoamyla e	glucoamyla e
	CONSER	CONSER VATIVE	CONSER
Ala (656)	Lys (657)	Arg (658)	Arg (659)
Gly	Arg	i Si	H S
O	4	O	0
<u> </u>	<u>ပ</u>	⋖	∢
GGTTACAAGTGTG G AATGTAGTCGTG G/C]CTATCAAATG GATCTTGCTACTG	GCCGAGGACGTG CGTGGCAACCTG A[G/A]GGGCAACA CCGAGGGGCTGC AGAAG	TACGAGGTGCCC TTGGAGACCCG C[A/G]TGTCCACA GCCGGCCACCGT	GAGGAGCCCTTC GAGGTGATCGTG C[A/G]CCGGCAGC TGGACGGCCGCG
	949	1036	1108
cg43982507 1883	cg41554010	cg43299024	cg43299024
427	428	429	430

2		14 (14q11.2)	2 (2q21)
0	6.40E-91	9.90E-70	0
glycoprotein Human Gene SWISSPROT-ID:P98164 LOW-DENSITY LIPOPROTEIN RECEPTOR-RELATED PROTEIN 2 (MEGALIN) (GLYCOPROTEIN 330) - HOMO SAPIENS (HUMAN), 1751 aa (fragment).	glycoprotein Human Gene Similar to SWISSPROT-ID:P38159 HETEROGENEOUS NUCLEAR RIBONUCLEOPROTEIN G (HNRNP G) (GLYCOPROTEIN P43) - HOMO SAPIENS (HUMAN), 437 aa.	glycoprotein Human Gene Similar to SWISSPROT-ID:P16452 ERYTHROCYTE MEMBRANE PROTEIN BAND 4.2 (P4.2) (PALLIDIN) - HOMO SAPIENS (HUMAN), 690 aa.	Human Gene SWISSPROT- ID:P09848 LACTASE-PHLORIZIN HYDROLASE PRECURSOR (EC 3.2.1.108) (EC 3.2.1.62) (LACTASE- GLYCOSYLCERAMIDASE) - HOMO SAPIENS (HUMAN), 1927 aa.
glycoprotein	glycoprotein	glycoprotein	hydrolase
CONSER	CONSER	CONSER	CONSER
(660)	Arg (661)	lle (662)	(663)
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₹	⋖	ပ	⋖
GACTGACTGGGG AAAGGAACCTAAA [A/C]TCGAGTCTG CCTGGATGAATG GAGA	AGTTATTCTAGAG GATACAGAAATCĮ A/GJTCGAAGTTCC CGAGAACTAGG GAG	GGACCAGGGGGC G CATGCTGCTCAAT [G/A]TCTCAGGCC ACGTCAAGGAGA GCGC	TGCTTTTCAGGGC A GGAAACTCTCT A/GJTTGTCCTGCG AGCTGAAGATATC CC
12840	1004	2101	999
cg43285373	cg36834323	cg41568631	cg42359655
431	432	433	434

16 (16q22)	18 (18q21.3)
2.00E-220 16 (16q)	2.20E-149 18 (18)
CONSER hydroxyster Human Gene SPTREMBL- VATIVE oid ID:Q13194 11-BETA- HYDROXYSTEROID DEHYDROGENASE TYPE 2 - HOMO SAPIENS (HUMAN), 405 aa.	CONSER immunoglob Human Gene Homologous to VATIVE SPTREMBL-ID:P91456 SIMILAR TO THE IMMUNOGLOBULIN SUPERFAMILY - CAENORHABDITIS ELEGANS, 1173 aa.
hydroxyster oid	immunoglob
(664)	Phe (665)
<u>a</u>	Туг
⋖	<u> </u>
<u>ပ</u>	∢
GIGIGGGCCIIG GTGAACTCTAGCA [C/A]GCGGCTAAT GTCCTGGTTTG GTC	GGAGATGTGGTC ATTCCTAGTGATT[A/I]TTTCAGATA GTGGGAGGAAGC AAC
	1133
cg43998672 1331	cg43969028 1133
435	436

·	10
2.50E-206	0
Human Gene SWISSNEW- ID:P29466 INTERLEUKIN-1 BETA CONVERTASE PRECURSOR (IL- 1BC) (EC 3.4.22.36) (IL-1 BETA CONVERTING ENZYME) (ICE) (INTERLEUKIN-1 BETA CONVERTING ENZYME) (P45) (CASPASE-1) (CASP-1) - HOMO SAPIENS (HUMAN), 404 aa.jpcls:SWISSPROT-ID:P29466 INTERLEUKIN-1 BETA CONVERTING ENZYME) (ICE) (INTERLEUKIN-1 BETA CONVERTING ENZYME) (ICE) (INTERLEUKIN-1 BETA CONVERTING ENZYME) (ICE) (CASPASE-1) (CASP-1) - HOMO SAPIENS (HUMAN), 404 aa.	Human Gene SWISSNEW- ID:P33176 KINESIN HEAVY CHAIN (UBIQUITOUS KINESIN HEAVY CHAIN) (UKHC) - HOMO SAPIENS (HUMAN); 963 aa. pcls:SWISSPROT-ID:P33176 KINESIN HEAVY CHAIN (UBIQUITOUS KINESIN HEAVY CHAIN) (UKHC) - HOMO SAPIENS (HUMAN), 963 aa.
VATIVE interleukin	kinesin
CONSER	CONSER
Arg (666)	(667)
His	\all
ဖ	∢
⋖	U
AAGGAGAAGAGA AAGCTGTTTATCC AAGJTTCCATGGGT GAAGGTACAATAA AT	GCCACTGTCTCTT CCAAACCCTTCA{ C/AJGCCTTGTCTT GCTTGTTCTCGTC TA
133	1163
cg43933479 133	cg43942537
437	438

	Г — —	1	
19	19	9	111
1.80E-113 19	1.80E-113	1.80E-113 19	. 0
Human Gene Homologous to SPTREMBL-ID:Q95368 HLA CLASS I INHIBITORY NK RECEPTOR - HOMO SAPIENS (HUMAN), 455 aa.	Human Gene Homologous to SPTREMBL-ID:Q95368 HLA CLASS I INHIBITORY NK RECEPTOR - HOMO SAPIENS (HUMAN), 455 aa.	Human Gene Homologous to SPTREMBL-ID:Q95368 HLA CLASS I INHIBITORY NK RECEPTOR - HOMO SAPIENS (HUMAN), 455 aa.	Human Gene SWISSNEW- ID: P06401 PROGESTERONE RECEPTOR (PR) - HOMO SAPIENS (HUMAN), 933 aa. pcls:SWISSPROT-ID: P06401 PROGESTERONE RECEPTOR (PR) - HOMO SAPIENS (HUMAN), 933 aa.
MHC	MHC	MHC	nucl_recpt
CONSER MHC	CONSER	CONSER	CONSER
lle (668)	Leu (669)	Asp (670)	(671)
\ \ \	 	Asn	\ \ \ \
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ပ	ပ	∢	စ
TTCCAAATGCTGA G GCCCAGAGCGTT[G/A]TCTCCTGCCC ATGAGCACCACA GTC	CTGGAACAGTTTC G CTCATTAGCCCT[G/CJTGACCCCAG CACACGCAGGGA CCTA	TCATCGCTGGTGC A TCCAAAAAAAA(A /GJATGCTGCTGTA ATGAACCAAGAGG	GGATGCTGTTGCT CTCCCACAGCCA[G/I]TGGGCGTTCC AAATGAAAGCCAA GC
1035	271	823	3434
cg38337333	cg38337333	cg38337333	cg30421838
439	440	441	442

	<u> </u>		
	3 (3p21.3)	1 2	12
4.10E-254 22	0	1.10E-97	1.10E-97
Human Gene SWISSPROT- ID:Q07869 PEROXISOME PROLIFERATOR ACTIVATED RECEPTOR ALPHA (PPAR-ALPHA) - HOMO SAPIENS (HUMAN), 468 aa. pcls:SPTREMBL-ID:Q16241 PEROXISOME PROLIFERATOR ACTIVATED RECEPTOR ALPHA - HOMO SAPIENS (HUMAN), 468 aa (fragment).	Human Gene SWISSPROT- ID:P40692 MUTL PROTEIN HOMOLOG 1 (DNA MISMATCH REPAIR PROTEIN MLH1) - HOMO SAPIENS (HUMAN), 756 aa.	Human Gene Similar to SWISSPROT-ID:P01118 TRANSFORMING PROTEIN P21/K- RAS 2B - HOMO SAPIENS (HUMAN), 188 aa.	Human Gene Similar to SWISSPROT-ID:P01118 TRANSFORMING PROTEIN P21/K- RAS 2B - HOMO SAPIENS (HUMAN), 188 aa.
CONSER nucl_recpt	nuclease	oncogene	oncogene
CONSER	CONSER	CONSER	CONSER VATIVE
(672)	Val (673)	Glu (674)	Gin (675)
Ala	<u>e</u>	Gi	Glu
F	ပ	ပ	O
ပ	-	O	စ
GCCAATGGCATC CAGAACAAGGAG G[C/T]GGAGGTCC GCATCTTTCACTG CTGC	TCTCGACTAACAG CATTTCCAAAGAIT /CJGGAGCGAATAT TGTCCACGGTTGA G	GAGTGCCTTGAC GATACAGCTAATT[C/GJAGAATCATTT TGTGGACGAATAT GA	AAGAAGTTATGGA ATTCCTTTTATT[G/ CJAAACATCAGCA AAGACAAGACAG GG
1019	1860	194	548
cg43064060 1019	cg43991813	cg42904626	cg42904626
443	444	445	446

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3 (3p14.2)	9	6 (6p12)
0	1.40E-79	0
Human Gene SWISSPROT- ID:P23470 PROTEIN-TYROSINE PHOSPHATASE GAMMA PRECURSOR (EC 3.1.3.48) (R-PTP- GAMMA) - HOMO SAPIENS (HUMAN), 1445 aa.	Human Gene Similar to SPTREMBL- ID:Q61469 PHOSPHATIDIC ACID PHOSPHATASE - MUS MUSCULUS (MOUSE), 283 aa.	Human Gene SWISSNEW- ID:P25205 DNA REPLICATION LICENSING FACTOR MCM3 (DNA POLYMERASE ALPHA HOLOENZYME-ASSOCIATED PROTEIN P1) (RLF BETA SUBUNIT) (P102 PROTEIN) - HOMO SAPIENS (HUMAN), 808 aa.[pcls:SWISSPROT-ID:P25205 DNA REPLICATION LICENSING FACTOR MCM3 (DNA POLYMERASE ALPHA HOLOENZYME-ASSOCIATED PROTEIN P1) (RLF BETA SUBUNIT) (P102 PROTEIN) - HOMO SAPIENS (HUMAN), 808 aa.
phosphatas e	phosphatas e	polymerase
CONSER	CONSER	CONSER
Val (676)	Ala (677)	(678)
Ala	\ \ \	Ten Len
F	O	O ,
ပ	-	O
GCCGCCTCAGCC AGCAAGCAGGCG GIC/TJTAGGCCAGGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCA	GGGATGTACTGC ATGGTGTTCTTGG [T/C]GCTGTATGTG CAGGCACGACTC TGT	TCAGGTGGTGGG AACCTACCGTTGC [C/G]TTCCTGGAA AGAAGGGAGGCT ACAC
2845	582	807
cg42460457	cg43272594	cg43958858
447	448	449

7 (7q21.3)	œ	12 (12q24.2)	12 (12q24.2)
1.20E-247	0	0	0
Human Gene SPTREMBL- ID:Q15113 PROCOLLAGEN C- PROTEINASE ENHANCER PROTEIN PRECURSOR - HOMO SAPIENS (HUMAN), 449 aa.	Human Gene SWISSPROT- ID:P54296 M-PROTEIN (165 KD TITIN-ASSOCIATED PROTEIN) (165 KD CONNECTIN- ASSOCIATED PROTEIN) - HOMO SAPIENS (HUMAN), 1465 aa.	Human Gene SWISSPROT- ID:P29475 NITRIC-OXIDE SYNTHASE, BRAIN (EC 1.14.13.39) (NOS, TYPE I) (NEURONAL NOS) (NNOS) - HOMO SAPIENS (HUMAN), 1434 aa.	Human Gene SWISSPROT- ID:P29475 NITRIC-OXIDE SYNTHASE, BRAIN (EC 1.14.13.39) (NOS, TYPE I) (NEURONAL NOS) (NNOS) - HOMO SAPIENS (HUMAN), 1434 aa.
protease	struct	synthase	synthase
CONSER	CONSER	CONSER	CONSER VATIVE
Ser (679)	Asp (680)	Leu (681)	Ala (682)
Thr	Asn	Val	Gly
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∢	∢	ပ	<u>o</u>
GTACAGCGGGCG A GGCCACCTCGGG C[AT]CTGAGCAC CAATTTGCGGGG GGCG	GGATGCTGGAGA GTGGATCACTGTC [A/G]ATCAGACGA CAACAGCCAACC GTTA	GATTCCTCCAGAG G CTGGTGTTGGAA(G/CJTTCCCATCAG GCACCCCAAGTTT GA	AAGTTTGAGTGGT TCAAGGACCTGG G/CJGCTGAAGTG GTACGGCCTCCC CGCC
540	2745	2337	2380
cg43916732	cg42894809	cg40388639	cg40388639
450	451	452	453

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16	16
	7.70E-79
Human Gene Similar to SWISSNEW- 7.70E-79 ID:P39062 ACETYL-COENZYME A SYNTHETASE (EC 6.2.1.1) (ACETATECOA LIGASE) (ACYL-ACTIVATING ENZYME) (ACETYL-COA SYNTHASE) - BACILLUS SUBTILIS, 572 aa. [pcls:SWISSPROT-ID:P39062 ACETYL-COENZYME A SYNTHETASE (EC 6.2.1.1) (ACETATECOA LIGASE) (ACYL-ACTIVATING ENZYME) - BACILLUS SUBTILIS, 572 aa.	Human Gene Similar to SWISSNEW- 7.70E-79 ID:P39062 ACETYL-COENZYME A SYNTHETASE (EC 6.2.1.1) (ACETATE-COA LIGASE) (ACYL-ACTIVATING ENZYME) (ACETYL-COA SYNTHASE) - BACILLUS SUBTILIS, 572 aa. pcls:SWISSPROT-ID:P39062 ACETYL-COENZYME A SYNTHETASE (EC 6.2.1.1) (ACETATE-COA LIGASE) (ACYL-ACTIVATING ENZYME) (ACETYL-COENZYME) (ACETYL-COA SYNTHASE) - BACILLUS SUBTILIS, 572 aa.
synthase	synthase
CONSER	CONSER
(683) (683)	(684)
Ala Ala	보 다
O	<u></u>
O	∢
AATITCTATATCA CTGGGGACAGAG C/GJATATATGGAT AAAGATGGGTATT TC	TGGAACAGTGG ATATCCGAAAATG A/TJCTGCACACACC CCACAGCAGTTTT GG
1524	698
cg43124627	cg43124627
454	455

		3 (3q21)	ω
7.40E-65	7.00E-172	1.20E-55	5.50E-89
Human Gene Similar to SWISSNEW- 7.40E-65 ID:P39062 ACETYL-COENZYME A SYNTHETASE (EC 6.2.1.1) (ACETATE-COA LIGASE) (ACYL- ACTIVATING ENZYME) (ACETYL- COA SYNTHASE) - BACILLUS SUBTILLS, 572 aa. pcls:SWISSPROT-ID:P39062 ACETYL-COENZYME A SYNTHETASE (EC 6.2.1.1) (ACETATE-COA LIGASE) (ACYL- ACTIVATING ENZYME) (ACETYL- COA SYNTHASE) - BACILLUS SUBTILLS, 572 aa.	Human Gene SWISSPROT- ID:P33032 MELANOCORTIN-5 RECEPTOR (MC5-R) (MC-2) - HOMO SAPIENS (HUMAN), 325 aa.	Human Gene Similar to SPTREMBL- ID:Q89609 G PROTEIN-COUPLED RECEPTOR - EQUINE HERPESVIRUS TYPE 2 (EHV-2), 383 aa.	Human Gene Similar to TREMBLNEW-ID:G2653845 TNF RECEPTOR-RELATED RECEPTOR FOR TRAIL - HOMO SAPIENS (HUMAN), 386 aa.
synthase	tm7	tm7	tnfreceptor
CONSER VATIVE	CONSER	CONSER VATIVE	CONSER VATIVE
(685)	Phe (686)	Туг (687)	Val (688)
Name	Tyr	Phe	Ala
⋖	<u> </u>	—	⊢
O	∢	⋖	ပ
AGGAGGGGGT GAGGCATTTGTG [G/A]TCCTGGCCT CGCAGTTCCTGTC CCA	GTGATGGACCCT CTCATATATGCCT[A/TJCCGCAGCCAA GAGATGCGGAAG ACC	TTCCATCTGAGGT TTATAAACCACGIA /TJATTCAGGCAAA GTGGCCAGAATG GC	CAAGACCTAGCTC C CCCAGCAGAGG C/TJGGCCCCACAA CAAAAGAGGTCCA
1464	1090	964	344
cg43064068	cg2514276	cg32423505	cg43335558
456	457	458	459

12;	9 (9q34)
1.70E-177 12 ²	6.50E-192 9 (9q34)
CONSER transcriptfac Human Gene SPTREMBL- VATIVE tor ID:Q07279 TRANSCRIPTION FACTOR NF-E2 - MUS MUSCULUS (MOUSE), 373 aa.	transferase Human Gene SWISSPROT- ID:P16442 FUCOSYLGLYCOPROTEIN ALPHA- N- ACETYLGALACTOSAMINYLTRANS FERASE (EC 2.4.1.40) (HISTO- BLOOD GROUP A TRANSFERASE) (A TRANSFERASE) / FUCOSYLGLYCOPROTEIN 3- ALPHA- GALACTOSYLTRANSFERASE (EC 2.4.1.37) (HISTO-BLOOD GROUP B TRANSFERASE) (B TRANSFERASE) (B TRANSFERASE) (B SAPIENS (HUMAN), 354 aa.
transcriptfac tor	
CONSER	CONSER VATIVE
(689)	Ala (690)
Gln	Gly
O	O
U	ပ
GACAGAGCTGTA (CCGTGACATTTC[CGJAGCACCTTCGGATGAATCAGGCACGTCAGGATCAGGCAAATCAGGCAAAAAAAA	GAGGGCGATTTCT G ACTACCTGGGGG[G/C]GTTCTTCGGG GGGTCGGTGCAA GAG
	800
cg43998970 1347	cg2537639
460	

	6 (6p21.3)		
ω	9 9	6	4
0	0	0	0
Human Gene SWISSPROT- ID:003518 ANTIGEN PEPTIDE TRANSPORTER 1 (APT1) (PEPTIDE TRANSPORTER PSF1) (PEPTIDE TRANSPORTER PSF1) (PEPTIDE SUPPLY FACTOR 1) (PSF-1) (PEPTIDE TRANSPORTER INVOLVED IN ANTIGEN PROCESSING 1) - HOMO SAPIENS (HUMAN), 748 aa.	Human Gene SPTREMBL- ID:Q28437 ABC-TRANSPORTER - GORILLA GORILLA GORILLA (LOWLAND GORILLA), 703 aa.	Human Gene SPTREMBL- ACC:O14914 NEURONAL MUNC18- 1 BINDING PROTEIN - HOMO SAPIENS (HUMAN), 837 aa.	Human Gene SWISSPROT. ACC:P29374 RETINOBLASTOMA BINDING PROTEIN 1 (RBBP-1) - Homo sapiens (Human), 1257 aa.
transport	transport	UNCLASSI FIED	UNCLASSI FIED
CONSER	CONSER	CONSER	CONSER VATIVE
Val (691)	lle (692)	Val (693)	Val (694)
<u>e</u>		Ala	ren
O	∢	-	၁
4	ပ	ပ	O
AGTGTCCCTCACC A ATGGTCACCCTG AGJTCACCCTGC TCTGCTTTTCCTT CT	CCTGGAACGCGC CTTGTACCTGCTC [G/A]TAAGGAGGG TGCTGCACTTGG GGGT	GAGCACGAGGAA GCCATGAATGCG G[C/T]CTACTCAG GCTACGTCTACAC GCAC	AGATACTTTCTAT AAGCAGTTTTTA[G /CJATTGTAGGAAG CAGCTGAATTCAA
1552	1424	730	3568
cg43935995	cg43935986	cg43968274	cg44018598
462	463	464	465

<u>16</u>	17	1 (1942)	22 (22q11.2)	6 (6q23)
0	0	3.90E-257	3.30E-228	1.30E-171
Human Gene SWISSPROT- ACC:Q15046 LYSYL-TRNA SYNTHETASE (EC 6.1.1.6) (LYSINETRNA LIGASE) (LYSRS) (KIAA0070) - Homo sapiens (Human), 597 aa.	Human Gene SWISSPROT- ACC:P42694 HYPOTHETICAL PROTEIN KIAA0054 - Homo sapiens (Human), 1942 aa.	Human Gene SWISSPROT- ACC:P01019 ANGIOTENSINOGEN PRECURSOR - Homo sapiens (Human), 485 aa.	Human Gene SWISSPROT- ACC:P20062 TRANSCOBALAMIN II PRECURSOR - Homo sapiens (Human), 427 aa.	Human Gene SWISSPROT- ACC:P05089 ARGINASE 1 (EC 3.5.3.1) (LIVER-TYPE ARGINASE) - Homo sapiens (Human), 322 aa.
UNCLASSI	UNCLASSI	UNCLASSI	UNCLASSI	UNCLASSI FIED
CONSER	CONSER	CONSER	CONSER	CONSER
Ser (695)	His (696)	Glu (697)	Leu (698)	Gin (699)
Thr	Arg	Ö	<u>e</u>	Glu
O	⊢	Ø	ပ	ပ
U	O	O	V	ပ
ACACTGGAAAGCA CAACAGTTGGCA[C/GJTTCTGTCTAG AAAATAATAATTG CA	AACGCTGCCCTG ACTGAGAAAGGC A[C/T]GATGCTCG CTCCACTGCTGGA	CATCCAGGACAAC TTCTCGGTGACTI C/GJAAGTGCCCTT CACTGAGAGCGC CTG	CTTCAACCCTGGT CGGAGACAACGG[A/CJTCACCATGGC CATCAGAACAGTG CG	CTGATTCTTCCGT TCTTCTTGACTTC /GJTGCCACCTTGC CAGCCAGCTGCT CG
1825	1622	1381	996	1148
cg44926796	cg43055918	cg43966985	cg43918854	cg43918484
466	467	468	469	470

		6 (6q25.3)	
9.60E-148	9.60E-148	5.70E-124	7.20E-91
Human Gene Homologous to SWISSNEW-ACC:Q12846 SYNTAXIN 4 - Homo sapiens (Human), 297 aa.	Human Gene Homologous to SWISSNEW-ACC:Q12846 SYNTAXIN 4 - Homo sapiens (Human), 297 aa.	Human Gene Homologous to SWISSNEW-ACC:P04179 SUPEROXIDE DISMUTASE [MN] PRECURSOR (EC 1.15.1.1) - Homo sapiens (Human), 222 aa.	CONSER UNCLASSI Human Gene Similar to SWISSNEW- 7.20E-91 VATIVE FIED ACC:P01185 VASOPRESSIN- NEUROPHYSIN 2-COPEPTIN PRECURSOR [CONTAINS: ARG- VASOPRESSIN; NEUROPHYSIN 2 (NEUROPHYSIN-II); COPEPTIN] - Homo sapiens (Human), 164 aa.
CONSER UNCLASSI	UNCLASSI	UNCLASSI	UNCLASSI FIED
CONSER	CONSER	CONSER	CONSER
Val (700)	Asp (701)	(702)	Val (703)
Ala	©in ©in	n Ö	Gly
—	–	O	-
U	ပ	<u>ن</u>	O
ACGGCCCTGGAG C AACCAGAAGAAG G[C/T]GAGGAAGA AGAAAGTCTTGAT TGCC	GGATGGTGTCTG ATGAGGAGTTGG A[G/T]CAGATGCT GGACAGTGGGCA AAGCG	TTGGGGTTGGCTT GGTTTCAATAAG GCJAACGGGGAC ACTTACAAATTGC TGC	GTGACCGAGCCC GAGTGCCGCGAG G[G/T]CTTTCACC GCCGCGCCCGCG CCAGC
1009	725	921	1094
cg43942977 1009	cg43942977	cg43943361	cg25236776 1094
471	472	473	474

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7.20E-91	5.70E-75	1.30E-66	1.60E-54	1.60E-54
Human Gene Similar to SWISSNEW- 7.20E-91 ACC:P01185 VASOPRESSIN- NEUROPHYSIN 2-COPEPTIN PRECURSOR [CONTAINS: ARG- VASOPRESSIN; NEUROPHYSIN 2 (NEUROPHYSIN-II); COPEPTIN] - Homo sapiens (Human), 164 aa.	Human Gene Similar to REMTREMBL-ACC:G292791 T- CELL RECEPTOR BETA PRECURSOR - HOMO SAPIENS (HUMAN), 145 aa (fragment).	Human Gene Similar to REMTREMBL-ACC:G2104755 T CELL RECEPTOR V-BETA 23 - HOMO SAPIENS (HUMAN), 129 aa (fragment).	Human Gene Similar to REMTREMBL-ACC:G33509 T CELL RECEPTOR - HOMO SAPIENS (HUMAN), 118 aa (fragment).	Human Gene Similar to REMTREMBL-ACC:G33509 T CELL RECEPTOR - HOMO SAPIENS (HUMAN), 118 aa (fragment).
UNCLASSI	UNCLASSI	UNCLASSI	UNCLASSI	UNCLASSI FIED
CONSER	CONSER	CONSER VATIVE	CONSER	CONSER
Val (704)	Leu (705)	His (706)	lle (707)	Asp (708)
Gly	\ \ \	Arg	\\ \ag{\alpha}	ng
 -	ပ	⋖	∢	ပ
<u>ල</u>	ပ	ပ	ပ	ပ
CAGTGCCTCCCCT GCGGCCCGGGG [G/T]CAAAGGCCG CTGCTTCGGGCC CAGC	GGCCAACTCTGCT ATGGACACCAGA G/CJTACTCTGCTG TGCGGTCATCTGT CT	GCCTGGAACACC AGGCTCCTCTGC C[G/A]TGTCATGCT TTGTCTCCTGGGA GCA	AGCCACCCAGAC CGGAGACTCGGC C[G/A]TCTACCTCT GTGCTGTGGAGG	CGGCCGTCTACC TCTGTGCTGTGGA [G/C]GCCTATTCTA ACGACTACAAGCT CA
881	30	253	519	539
cg25236776	cg38899722	cg11753818	cg2526759	cg2526759
475	476	477	478	479

	13 (13q14.3)
2.10E-52	0
CONSER UNCLASSI Human Gene Similar to SWISSPROT-ACC:P01286 SOMATOLIBERIN PRECURSOR (GROWTH HORMONE-RELEASING FACTOR) (GRF) (GROWTH HORMONE-RELEASING HORMONE) (GHRH) (SOMATOCRININ) - Homo sapiens (Human), 108 aa.	ATPase_as Human Gene SWISSPROT- sociated ID:P35670 COPPER- TRANSPORTING ATPASE 2 (EC 3.6.1.36) (COPPER PUMP 2) (WILSON DISEASE-ASSOCIATED PROTEIN) - HOMO SAPIENS (HUMAN), 1465 aa.
UNCLASSI	ATPase_as sociated
CONSER	NON- ATPase_CONSER sociated_VATIVE
Asp (709)	Gly (710)
Oin .	Arg
<u> </u>	_ල
Ø	∢
CAGAACAAAAGCA G AATGGAATTGGA[G/TJAGCATCCTGG TGGCCCTGCTGC AGA	GAAACCCGGAAG A CACTGTAATTGCG [A/G]GGTCTATAAA TGCACATGGCTCT GT
368	3110
cg1902363	cg43277632 3110
80	481

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Х (ЖФ12)	3 (3921)	17 (17q21.3 2)
0	8.20E-288 3 (3q21)	0
Human Gene SWISSNEW- ID:Q04656 COPPER- TRANSPORTING ATPASE 1 (EC 3.6.1.36) (COPPER PUMP 1) (MENKES DISEASE-ASSOCIATED PROTEIN) - HOMO SAPIENS (HUMAN), 1500 aa. pcls:SWISSPROT-ID:Q04656 COPPER-TRANSPORTING ATPASE 1 (EC 3.6.1.36) (COPPER PUMP 1) (MENKES DISEASE- ASSOCIATED PROTEIN) - HOMO SAPIENS (HUMAN), 1500 aa.	Human Gene SWISSPROT- ID:P05166 PROPIONYL-COA CARBOXYLASE BETA CHAIN PRECURSOR (EC 6.4.1.3) (PCCASE) (PROPANOYL- COA:CARBON DIOXIDE LIGASE) - HOMO SAPIENS (HUMAN), 539 aa.	Human Gene SWISSPROT- ID:P08514 PLATELET MEMBRANE GLYCOPROTEIN IIB PRECURSOR (GPIIB) (INTEGRIN ALPHA- IIB) (CD41) - HOMO SAPIENS (HUMAN), 1039 aa.
ATPase_as sociated	biotindep	cadherin
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
(711)	Ser (712)	Ala (713)
Thr	Pro	Pro
<u> </u>	 	O
O	U	O
TGTATTCCTGTAA TGGGGCTGATGA[C/TJATATATGATG GTTATGGACCACC AC	GCCCCTGAGCAG TCAGGACCCGGC T[C/T]CCGTCCGT GAGTGCCACGAT CCCAG	GGAGTGGGTGCT GCTGCTCTTGGG A[C/G]CTTGTGCT GCCCTCCAGCC TGGGC
2306	929	267
cg43252813	cg43920913	cg40310734
	483	484

The second secon

17421.3 (17q21.3 2)	1 (1923)
0	1.00E-218 1 (1q23)
Human Gene SWISSPROT- ID:P08514 PLATELET MEMBRANE GLYCOPROTEIN IIB PRECURSOR (GPIIB) (INTEGRIN ALPHA- IIB) (CD41) - HOMO SAPIENS (HUMAN), 1039 aa.	Human Gene SWISSPROT- ID:P14151 L-SELECTIN PRECURSOR (LYMPH NODE HOMING RECEPTOR) (LEUKOCYTE ADHESION MOLECULE-1) (LAM-1) (LEUKOCYTE SURFACE ANTIGEN LEU-8) (TQ1) (GP90-MEL) (LEUKOCYTE-ENDOTHELIAL CELL ADHESION MOLECULE 1) (LECAM1) (CD62L) - HOMO SAPIENS (HUMAN), 372 aa.
cadherin	cadherin
NON- CONSER VATIVE	NON- CONSER VATIVE
Ala (714)	(715)
Pro	Phe
<u>ပ</u>	ပ
O	
CGTGTCCTCCCTC C CCCTATGCGGTG[C/GJCCCCGCTCA GCCTGCCCCGAG GCGA	GGGGTACTATGG GCCCAGTGTCA G[T/C]TTGTGATTC AGTGTGAGCCTTT GGA
3111	111
cg40310734 3111	cg43956560
485	486

The state of the s

q23)		
	4	
1.00E-218 1 (1q23)	7.00E-172	0
Human Gene SWISSPROT- ID:P14151 L-SELECTIN PRECURSOR (LYMPH NODE HOMING RECEPTOR) (LEUKOCYTE ADHESION MOLECULE-1) (LAM-1) (LEUKOCYTE SURFACE ANTIGEN LEU-8) (TQ1) (GP90-MEL) (LEUKOCYTE-ENDOTHELIAL CELL ADHESION MOLECULE 1) (LECAM1) (CD62L) - HOMO SAPIENS (HUMAN), 372 aa.	Human Gene SWISSPROT- ID:P21815 BONE SIALOPROTEIN II PRECURSOR (BSP II) (CELL- BINDING SIALOPROTEIN) (INTEGRIN-BINDING SIALOPROTEIN) - HOMO SAPIENS (HUMAN), 317 aa.	calcium_cha Human Gene SWISSPROT- nnel ID:P21817 RYANODINE RECEPTOR, SKELETAL MUSCLE (SKELETAL MUSCLE CALCIUM RELEASE CHANNEL) - HOMO SAPIENS (HUMAN), 5032 aa.
cadherin	cadherin	calcium_cha nnel
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Ser (716)	Gly (717)	Cys (718)
Pro	Arg	Arg
-	ව	<u> </u>
O	4	ပ
GCTGGGTACCAT GGACTGTACTCAC [C/T]CTTTGGGAAA CTTCAGCTTCAGC TC	TGCAGAAGGCAC CACAGAGACCGG A[A/G]GGCAGGGC AAGGGCACCTCG AAGAC	GTGTGTGTGTAAT GGTGTGGCTGTA[C/TJGCTCCAACCA AGATCTTATTACT GA
837	753	1945
	cg42388009	cg43977436
487	488 8	489

2	9	•	X (Xq22)
0	0	0	o
carboxylase Human Gene SWISSPROT- ID:P38435 VITAMIN K-DEPENDENT GAMMA-CARBOXYLASE (EC 6.4) (GAMMA-GLUTAMYL CARBOXYLASE) - HOMO SAPIENS (HUMAN), 758 aa.	Human Gene SWISSPROT- ID:Q03692 COLLAGEN ALPHA 1(X) CHAIN PRECURSOR - HOMO SAPIENS (HUMAN), 680 aa.	Human Gene SWISSPROT- ID:Q03692 COLLAGEN ALPHA 1(X) CHAIN PRECURSOR - HOMO SAPIENS (HUMAN), 680 aa.	Human Gene SPTREMBL- ID:Q12823 A TYPE IV COLLAGEN - HOMO SAPIENS (HUMAN), 1690 aa (fragment).
carboxylase	collagen	collagen	collagen
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Arg (719)	Gly (720)	Met (721)	Thr (722)
Gin	p	Thr	<u>=</u>
O	O	—	<u>ග</u>
٧	⋖	ပ	⋖
CGGAAGCTGGTG TCCTACTGCCCC [A/G]AAGGTTGCA ACAACTGTTGCCC CTC	CCAGGGCCTCCA GGTCCAAGAGGC C[A/C]CTCTGGAG AGCCTGGTCTTCC AGGG	GTGTTTTACGCTG AACGATACCAAA[C/TJGCCCACAGG CATAAAAGGCCCA	TCCAGGAATACCA A GGTCTGCCTGGT[A/G]TTCCTGGAAC AAGAGGATTAAAA GG
1130	1595	176	2855
cg43280376	cg42201364	cg42201364	cg40339378
490	491	492	493

1 (1p32)	1 (1p32)	5 (5013)	1 (1p21)
0	0	o	5.00E-304 1 (1p21)
complement Human Gene SWISSNEW- ID:P07358 COMPLEMENT COMPONENT C8 BETA CHAIN PRECURSOR - HOMO SAPIENS (HUMAN), 591 aa. pcis:SWISSPROT-ID:P07358 COMPLEMENT COMPONENT C8 BETA CHAIN PRECURSOR - HOMO SAPIENS (HUMAN), 591 aa.	complement Human Gene SWISSPROT- ID:P07357 COMPLEMENT COMPONENT C8 ALPHA CHAIN PRECURSOR - HOMO SAPIENS (HUMAN), 584 aa.	complement Human Gene TREMBLNEW-ID:G386348 COMPLEMENT C6 - HOMO SAPIENS, 941 aa.	Human Gene SWISSPROT- ID:P09603 MACROPHAGE COLONY STIMULATING FACTOR-1 PRECURSOR (CSF-1) (MCSF) - HOMO SAPIENS (HUMAN), 554 aa.
complement	complement	complement	csf
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Gly (723)	Gin (724)	Ala (725)	Pro (726)
Arg	Lys	Olu Olu	Leu
O	U	<u>U</u>	ပ
4	⋖	⋖	L
AGACTGTGTTACC A AACAGACCATGC[AG]GAAGTCAAGT GCGATGTGAAGG CTT	CTCCAGTTCTACA ACTTGTGTAAGG[A/CJAAGCACAGTG TGGACAGGATTTC CA	CAGTTTGGGGGA CAGCCATGCACT G[A/C]GCCTCTGG TAGCCTTTCAACC ATGC	CCAGGCTCTCCC AGGATCTCATCAC [T/C]GCGCCCCA GGGCCTCAGCAA CCCC
909	414	533	1347
cg43063256	cg44032748 414	cg43049885	cg2164442
494	495	496	497

ισ .	11
1.10E-77	1.70E-52
Human Gene Similar to SWISSNEW- ID:P08700 INTERLEUKIN-3 PRECURSOR (IL-3) (MULTIPOTENTIAL COLONY- STIMULATING FACTOR) (HEMATOPOIETIC GROWTH FACTOR) (MAST-CELL GROWTH FACTOR) (MAST-CELL GROWTH FACTOR) (MGGF) - HOMO SAPIENS (HUMAN), 152 aa.jpcls:SWISSPROT-ID:P08700 INTERLEUKIN-3 PRECURSOR (IL- 3) (MULTIPOTENTIAL COLONY- STIMULATING FACTOR) (HEMATOPOIETIC GROWTH FACTOR) (MAST-CELL GROWTH FACTOR) (MAST-CELL GROWTH FACTOR) (MAST-CELL GROWTH FACTOR) (MGGF) - HOMO SAPIENS (HUMAN), 152 aa.	cytochrome Human Gene Similar to SWISSPROT-ID:P21592 CYTOCHROME C OXIDASE ASSEMBLY PROTEIN COX10 PRECURSOR - SACCHAROMYCES CEREVISIAE (BAKER'S YEAST), 462 aa.
ষ্ট	cytochrome
NON- CONSER VATIVE	NON- CONSER VATIVE
(727)	His (728)
ල ව	Туг
–	ග
CCAAGCTCCCATG C ACCCAGACAACG[C/I)CCTTGAAGAC AAGCTGGGTTAAC TG	TCCACGTAGAAGC A GGAAGCCGAGGT[A/G]GGAGATGTAC GCATTGATGGGAA GG
279	1651
cg2753430	cg43923204 1651
498	499

22	1 (1p36.2)	4 (4922)
	8.80E-78	1.30E-209 4 (4q22)
cytochrome Human Gene Similar to SPTREMBL- 2.40E-52 ID:000761 CYTOCHROME OXIDASE SUBUNIT VIA HEART ISOFORM PRECURSOR (EC 1.9.3.1) (CYTOCHROME-C OXIDASE) (CYTOCHROME A(3)) (CYTOCHROME AA(3)) - HOMO SAPIENS (HUMAN), 97 aa.	Human Gene Similar to SWISSPROT-ID:P32320 CYTIDINE DEAMINASE (EC 3.5.4.5) (CYTIDINE AMINOHYDROLASE) - HOMO SAPIENS (HUMAN), 146 aa. pcls:TREMBLNEW-ID:E1228801 CYTIDINE DEAMINASE (EC 3.5.4.5) - HOMO SAPIENS (HUMAN), 146 aa.	dehydrogen Human Gene SWISSNEW- ase ID:P08319 ALCOHOL DEHYDROGENASE CLASS II PI CHAIN (EC 1.1.1.1) - HOMO SAPIENS (HUMAN), 391 aa.lpcls:SWISSPROT-ID:P08319 ALCOHOL DEHYDROGENASE CLASS II PI CHAIN (EC 1.1.1.1) - HOMO SAPIENS (HUMAN), 391 aa.
cytochrome	deaminase	dehydrogen ase
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Gin (729)	Gin (730)	Giy (731)
Pro	Lys	End
-	ပ	ပ
O	⋖	⊢
TTGGTAGGGACG GAACTCGGGGCG C[G/T]GGCGGTGG CCCGAGTGGAGA TAGGA	GCTGGTTTGCTCC A CAGGAGGCCAAG[A/CJAGTCAGCCTA CTGCCCCTACAGT CA	AAGCATCCGAACA ATCCTCATCTT[I/ GJGAAGATGCCAG GAGCAATTCGGAA T
174	279	1618
cg44017721 174	cg41626024	cg43057018
200	501	502

		(1p36.13
3.90E-86	5.50E-57	1.30E-60
Human Gene Similar to TREMBLNEW-ID:G913312 DNA BINDING PROTEIN MEF2 {CLONE XMEF2A1} - XENOPUS LAEVIS, 516 aa.	Human Gene Similar to SPTREMBL-ID:Q61491 DNA-BINDING PROTEIN-MUS MUSCULUS (MOUSE), 546 aa.	Human Gene Similar to SWISSNEW-1.30E-60 ID:Q02535 DNA-BINDING PROTEIN INHIBITOR ID-3 (ID-LIKE PROTEIN INHIBITOR HLH 1R21) (HELIX- LOOP-HELIX PROTEIN HEIR-1) - HOMO SAPIENS (HUMAN), 119 aa.pcls:SWISSPROT-ID:Q02535 DNA-BINDING PROTEIN INHIBITOR ID-3 (ID-LIKE PROTEIN INHIBITOR ID-3 (ID-LIKE PROTEIN INHIBITOR HLH 1R21) (HELIX-LOOP-HELIX PROTEIN HEIR-1) - HOMO SAPIENS (HUMAN), 119 aa.
dna_rna_bi nd	dna_rna_bi nd	dna_ma_bi nd_inhib
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Ala (732)	Lys (733)	Thr (734)
ТÅ	Asn	Ala
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۷	ပ	O
CCGCACCAACGC CGACATCATCGAG [A/G]CCCTGAGGA AGAAGGGCTTCAA GGG	TCCACGACCGGG TAGAGAACTACAA [C/A]CCGCGGGCAG CGCAAGCTCCGC	TCGTTGGAGATGA C CAAGTTCCGGAG[C/TJGAGCTCGGCT GTCTGGATGGGA AGG
464	2205	707
cg42837709 464	cg43327954	cg43971258
503	504	505

(£)	
11 (11q23)	
1.80E-203	1.90E-178
Human Gene SWISSNEW- ID:P06727 APOLIPOPROTEIN A-IV PRECURSOR (APO-AIV) - HOMO SAPIENS (HUMAN), 396 aa. pcls:SWISSPROT-ID:P06727 APOLIPOPROTEIN A-IV PRECURSOR (APO-AIV) - HOMO SAPIENS (HUMAN), 396 aa.	Human Gene SWISSNEW- ID:Q15166 SERUM PARAOXONASE/ARYLESTERASE 3 (EC 3.1.1.2) (EC 3.1.8.1) (PON 3) (SERUM ARYLDIAKYLPHOSPHATASE 3) (A- ESTERASE 3) - HOMO SAPIENS (HUMAN), 341 aa (fragment). Ipcls:SWISSPROT- ID:Q15166 SERUM PARAOXONASE/ARYLESTERASE 3 (EC 3.1.1.2) (EC 3.1.8.1) (PON 3) (SERUM ARYLDIAKYLPHOSPHATASE 3) (A- ESTERASE 3) - HOMO SAPIENS (HUMAN), 341 aa (fragment).
ebh	esterase
NON- CONSER VATIVE	NON- CONSER VATIVE
His (735)	Glu (736)
Gin	Ö Ö
<u> </u>	—
O	O
AGCTGGAGCAAC AGCAGGAACAGC A[G/T]CAGGAGCA GCAGCAGGAGCA GGTGC	GTTTGGCATACCT GGATATTTTAAT[C /TJCAGTGGAGATA AAAGACAGCCCA CT
1253	1063
cg41554010	cg43957743
506	202

	15 (15q15)
1.90E-178	9.30E-106 1
Human Gene SWISSNEW- ID:Q15166 SERUM PARAOXONASE/ARYLESTERASE 3 (EC 3.1.1.2) (EC 3.1.8.1) (PON 3) (SERUM ARYLDIAKYLPHOSPHATASE 3) (A- ESTERASE 3) - HOMO SAPIENS (HUMAN), 341 aa (fragment) [pcls:SWISSPROT- ID:Q15166 SERUM PARAOXONASE/ARYLESTERASE 3 (EC 3.1.1.2) (EC 3.1.8.1) (PON 3) (SERUM ARYLDIAKYLPHOSPHATASE 3) (A- ESTERASE 3) - HOMO SAPIENS (HUMAN), 341 aa (fragment).	Human Gene Homologous to SWISSPROT-ID:P21781 KERATINOCYTE GROWTH FACTOR PRECURSOR (KGF) (FIBROBLAST GROWTH FACTOR- 7) (FGF-7) (HBGF-7) - HOMO SAPIENS (HUMAN), 194 aa.
esterase	fgf
NON- CONSER VATIVE	NON- CONSER VATIVE
Ala (737)	Glu (738)
ਨ ਹ	Lys
O	Ø
⋖	⋖
TATTTTAATCCAG TGGAGATAAAAGI A/CJCAGCCCACTA GGAAGTATATCAA TA	AAGTGAATTCTAT , CTTGCAATGAAC[A/GJAGGAAGGAAA ACTCTATGCAAAG AA
1079	812
cg43957743	cg43248101
508	209

2	12
7.40E-80	0
glucuronida Human Gene Similar to SWISSPROT-ID:P08236 BETA- GLUCURONIDASE PRECURSOR (EC 3.2.1.31) (BETA-G1) - HOMO SAPIENS (HUMAN), 651 aa.	glycoprotein Human Gene SWISSNEW- ID:P40967 MELANOCYTE PROTEIN PMEL 17 PRECURSOR (MELANOCYTE LINEAGE- SPECIFIC ANTIGEN GP100) (MELANOCYTE LINEAGE- SPECIFIC ANTIGEN GP100) (MELANOMA-ASSOCIATED ME20 ANTIGEN) (ME20M/ME20S) (ME20- M/ME20-S) (95 KD MELANOCYTE- SAPIENS (HUMAN), 661 aa.jpcls:SWISSPROT-ID:P40967 MELANOCYTE PROTEIN PMEL 17 PRECURSOR (MELANOCYTE LINEAGE-SPECIFIC ANTIGEN GP100) (MELANOMA-ASSOCIATED ME20-S) (95 KD MELANOCYTE- SPECIFIC SECRETED GLYCOPROTEIN) - HOMO SAPIENS (HUMAN), 661 aa.
glucuronida se	glycoprotein
NON- CONSER VATIVE	NON- CONSER VATIVE
lle (739)	Arg (740)
Arg	<u>අ</u>
⋖	ပ
O	ပ
GATGAGCTCTCCA C ACCACGTATTTIC /AJTGCGTTTTTGA TCCAGACCCAGAT G	CACCAGCAAGAT GCCCACGATCAG C(G/C)GAACCTGC CCAAGGCCTGCTT CTTG
332	387
cg43969014 332	cg43286488
510	511

0	0	0
glycoprotein Human Gene SWISSPROT- ID:Q12889 OVIDUCT-SPECIFIC GLYCOPROTEIN PRECURSOR (OVIDUCTAL GLYCOPROTEIN) (OVIDUCTIN) (ESTROGEN- DEPENDENT OVIDUCT PROTEIN) - HOMO SAPIENS (HUMAN), 678 aa.	glycoprotein Human Gene SWISSPROT- ID:Q12889 OVIDUCT-SPECIFIC GLYCOPROTEIN PRECURSOR (OVIDUCTAL GLYCOPROTEIN) (OVIDUCTIN) (ESTROGEN- DEPENDENT OVIDUCT PROTEIN) - HOMO SAPIENS (HUMAN), 678 aa.	glycoprotein Human Gene SWISSPROT- ID:Q12889 OVIDUCT-SPECIFIC GLYCOPROTEIN PRECURSOR (OVIDUCTAL GLYCOPROTEIN) (OVIDUCTIN) (ESTROGEN- DEPENDENT OVIDUCT PROTEIN) - HOMO SAPIENS (HUMAN), 678 aa.
glycoprotein	glycoprotein	glycoprotein
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
His (741)	Pro (742)	Thr (743)
Ϋ́	e S	Met
ග	ග	<u>ග</u>
4	⋖	⋖
TTTTCCCCAGGGG A TCACAGACTGAT[A/G]ACCCACAGAG GTCAGGGTCTTCT GT	GGGGTCACAGAC TGATAACCCACAG [A/G]GGTCAGGGT CTTCTGTCCAGTG GTC	CTGATGACCCACA A GAAGTCATGGTC[A/GJTTGCCCCAGT GATCTCAGTCTTC TC
663	672	773
cg44004239 663	cg44004239	cg44004239
512	513	514

(11pter)	(1921)
1.80E-195	2.00E-183
glycoprotein Human Gene SWISSPROT- ID:P16070 CD44 ANTIGEN PRECURSOR (PHAGOCYTIC GLYCOPROTEIN I) (PGP-1) (HUTCH-I) (EXTRACELLULAR MATRIX RECEPTOR-III) (ECMR-III) (GP90 LYMPHOCYTE HOMING/ADHESION RECEPTOR) (HERMES ANTIGEN) (HEPARAN SULFATE PROTEOGLYCAN) (EPICAN) (CDW44) - HOMO SAPIENS (HUMAN), 742 aa.	glycoprotein Human Gene SWISSNEW- ID:P06126 T-CELL SURFACE GLYCOPROTEIN CD1A PRECURSOR (CD1A ANTIGEN) (T- CELL SURFACE ANTIGEN T6/LEU- 6) (HTA1 THYMOCYTE ANTIGEN) - HOMO SAPIENS (HUMAN), 327 aa.[pcls:SWISSPROT-ID:P06126 T- CELL SURFACE GLYCOPROTEIN CD1A PRECURSOR (CD1A ANTIGEN) (T-CELL SURFACE ANTIGEN T6/LEU-6) (HTA1 THYMOCYTE ANTIGEN) - HOMO SAPIENS (HUMAN), 327 aa.
glycoprotein	glycoprotein
NON- CONSER VATIVE	NON- CONSER VATIVE
Tyr (744)	lle (745)
ر ا	Thr
F	<u></u>
ပ	O
ATATGTGTCATAC TGGGAGGTGTTGI G/JATGTGAGGAT GTACACCCCTGTG TT	AAGGAGCCTCTCT CCTTCCATGTCA C/TCTGGATCGCA TCCTTTTACAACC AT
1504	622
cg43932434	cg40915005
515	516

1 (1021)			
2.00E-183 1.(1021)		6.40E-91	6.40E-91
discoprotein [Human Gene SWISSNEW.	ID:P06126 T-CELL SURFACE GLYCOPROTEIN CD1A PRECURSOR (CD1A ANTIGEN) (T-CELL SURFACE ANTIGEN TG/LEU-6) (HTA1 THYMOCYTE ANTIGEN) - HOMO SAPIENS (HUMAN), 327 aa. Ipcls:SWISSPROT-ID:P06126 T-CELL SURFACE GLYCOPROTEIN CD1A PRECURSOR (CD1A ANTIGEN) (T-CELL SURFACE ANTIGEN T6/LEU-6) (HTA1 THYMOCYTE ANTIGEN) - HOMO SAPIENS (HUMAN), 327 aa.	glycoprotein Human Gene Similar to SWISSPROT-ID: P38159 HETEROGENEOUS NUCLEAR RIBONUCLEOPROTEIN G (HNRNP G) (GLYCOPROTEIN P43) - HOMO SAPIENS (HUMAN), 437 aa.	glycoprotein Human Gene Similar to SWISSPROT-ID:P38159 HETEROGENEOUS NUCLEAR RIBONUCLEOPROTEIN G (HNRNP G) (GLYCOPROTEIN P43) - HOMO SAPIENS (HUMAN), 437 aa.
alveoprotein		glycoprotein	glycoprotein
-NON	VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Cys	(746)	Cys (747)	Thr (748)
Tro	<u>.</u>	Tyr	Lys
<u>c</u>)	Ø	U
ی		∢	⋖
ATTCCAGCACCAT	CGTTTCCTGTG G/CJCCCTGGTCCA GGGGAACTTCA GCA	GTGCTCCCTGATC A CTCGTGAAGCAT[A/GJTGGTAGCTCA AGTTATGTGGCAT CT	AATGCTGCGAAAG A ATATGAATGGAA[A /C]GTCTTTGCATG GAAAAGCAATAAA A
737		1529	329
0040915005		cg36834323	cg36834323
517		518	519

	r		
	-		
-91	-80	89-	-188 2
6.40E-91	2.50E-80	9.40E-58	2.60E-188
glycoprotein Human Gene Similar to SWISSPROT-ID:P38159 HETEROGENEOUS NUCLEAR RIBONUCLEOPROTEIN G (HNRNP G) (GLYCOPROTEIN P43) - HOMO SAPIENS (HUMAN), 437 aa.	glycoprotein Human Gene Similar to SWISSPROT-ID:P04216 THY-1 MEMBRANE GLYCOPROTEIN PRECURSOR (THY-1 ANTIGEN) (CDW90) (CD90 ANTIGEN) - HOMO SAPIENS (HUMAN), 161 aa.	glycoprotein Human Gene Similar to SWISSPROT-ID:Q05910 CELL SURFACE ANTIGEN MS2 PRECURSOR (EC 3.4.24) (MACROPHAGE CYSTEINE- RICH GLYCOPROTEIN) (CD156 ANTIGEN) - MUS MUSCULUS (MOUSE), 826 aa.	Human Gene SWISSPROT- ID:P28356 HOMEOBOX PROTEIN HOX-D9 (HOX-4C) (HOX-5.2) - HOMO SAPIENS (HUMAN), 342 aa.
glycoprotein	glycoprotein	glycoprotein	homeobox
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Arg (749)	His (750)	Gly (751)	Asp (752)
Ser	Asn	Arg	Ala
ပ	Ø	<u>o</u>	⊢
⋖	<u></u>	ď	ပ
AAGTCTGAGATCT GCAAGAGGAAGCĮ ACJGTGGAGGAA CAAGAGGGTGGC TTCC	GCGGATAAGTAG AGGACCTTCATGT [T/G]GTATTTGCTG GTGAAGTTGGTTC GG	CTTAGACATACAA TATACTTACCTT[AV G]GAGGTCACGTA TGTTTGTCCGCAC A	GGAGCGAGCGTG GATCCAGTTCGC G[G/T]CGGGGTTG TTTGGGTCAAGTT GCTG
463	1697	1665	086
cg36834323	cg44019290	cg42336656	cg42730678
520	521	522	523

	2 (2q21)	_
1.10E-123	0	o
Human Gene Homologous to SWISSPROT-ID:P17509 HOMEOBOX PROTEIN HOX-86 (HOX-2B) (HOX-2.2) (HU-2) - HOMO SAPIENS (HUMAN), 224 aa.	Human Gene SWISSPROT- ID:P09848 LACTASE-PHLORIZIN HYDROLASE PRECURSOR (EC 3.2.1.108) (EC 3.2.1.62) (LACTASE- GLYCOSYLCERAMIDASE) - HOMO SAPIENS (HUMAN), 1927 aa.	Human Gene SWISSPROT- ID:Q16666 GAMMA-INTERFERON- INDUCIBLE PROTEIN IFI-16 (INTERFERON-INDUCIBLE MYELOID DIFFERENTIATION TRANSCRIPTIONAL ACTIVATOR) - HOMO SAPIENS (HUMAN), 729 aa.jpcls:SPTREMBL-ID:Q16666 IF16=INTERFERON-INDUCIBLE MYELOID DIFFERENTIATION TRANSCRIPTIONAL ACTIVATOR - HOMO SAPIENS (HUMAN), 729 aa (fragment).
homeobox	hydrolase	interferon
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Ser (753)	Ala (754)	His (755)
<u> </u>	Thr	Asp
ပ	<u>ග</u>	<u>ග</u>
<u> </u>	∢	O
GCCCTGTGCCTG ACGGAGAGGCAG A[T/G]CAAGATATG GTTCCAGAACCGA CGC	CTGGGCACCATAT A AGGATAGCCCAC[A/G]CCGTCATCAA AGCCCATGCCAG AGT	GTGGAGGGTGCA GGTGAAGTAGCAT [C/G]CACTTCCTTC TTCCTCTTTCTTG AT
692	3297	2172
cg42714160 769	cg42359655	cg43925670
524	525	526

10	21 (21q22.1)	14 (14q32.3)	11 (20p13)	11 (20p13)
0	0	1.40E-262	2.00E-215	2.00E-215
Human Gene SWISSPROT- ID:Q04759 PROTEIN KINASE C, THETA TYPE (EC 2.7.1) (NPKC- THETA) - HOMO SAPIENS (HUMAN), 706 aa.	Human Gene SWISSPROT- ID:Q13627 SERINE/THREONINE- SPECIFIC PROTEIN KINASE MINIBRAIN HOMOLOG (EC 2.7.1) (HP86) (DYRK) - HOMO SAPIENS (HUMAN), 763 aa.	Human Gene SWISSPROT- ID:P31749 RAC-ALPHA SERINE/THREONINE KINASE (EC 2.7.1) (RAC-PK-ALPHA) (PROTEIN KINASE B) (PKB) (C-AKT) - HOMO SAPIENS (HUMAN), 480 aa.	Human Gene SWISSPROT- ID:P19138 CASEIN KINASE II, ALPHA CHAIN (CK II) (EC 2.7.1.37) - HOMO SAPIENS (HUMAN), AND BOS TAURUS (BOVINE), 391 aa.	Human Gene SWISSPROT- ID:P19138 CASEIN KINASE II, ALPHA CHAIN (CK II) (EC 2.7.1.37) - HOMO SAPIENS (HUMAN), AND BOS TAURUS (BOVINE), 391 aa.
kinase	kinase	kinase	kinase	kinase
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Leu (756)	Asn (757)	Ser (758)	Val (759)	Arg (760)
Pro	Lys	oj O	Met	Ser
		-	U	o o
U	O	ပ		-
TGCTCCATCAAAA ATGAAGCAAGGC[C/T]GCCATGTTTA CCGACACCGGGA AAA	CAAAAGCAAGAAA GTTCTTTGAGAA{ G/IJTTGCCAGATG GCACTTGGAACTT AA	AGTCCACCGCCG CCTCAGGCCGTG C[C/T]GCTGGCCG AGTAGGAGAACT GGGGG	GGCACTGAAGAA ATCCCTGACATCA [T/C]ATTGGCGCT GCTGACGGGCGT ACTG	GGGCTGACAAGG TGCTGATTTTCAC[T/G]GTGGACAAAG CGTTCCCATCGCT TT
1083	2663	1226	1429	1621
cg43090990	cg43969763	cg43932396	cg43917871	cg43917871
527	528	529	530	531

11 (20p13)	11 (20p13)	(19q13.1)
2.00E-215 11 (20	2.00E-215 11 (20	0
Human Gene SWISSPROT- ID:P19138 CASEIN KINASE II, ALPHA CHAIN (CK II) (EC 2.7.1.37) - HOMO SAPIENS (HUMAN), AND BOS TAURUS (BOVINE), 391 aa.	Human Gene SWISSPROT- ID:P19138 CASEIN KINASE II, ALPHA CHAIN (CK II) (EC 2.7.1.37) - HOMO SAPIENS (HUMAN), AND BOS TAURUS (BOVINE), 391 aa.	kinaserecep Human Gene SWISSNEW- ID:P30530 TYROSINE-PROTEIN KINASE RECEPTOR UFO PRECURSOR (EC 2.7.1.112) (AXL ONCOGENE) - HOMO SAPIENS (HUMAN), 887 aa.lpcls:SWISSPROT-ID:P30530 TYROSINE-PROTEIN KINASE RECEPTOR UFO PRECURSOR (EC 2.7.1.112) (AXL ONCOGENE) - HOMO SAPIENS (HUMAN), 887 aa.
kinase	kinase	kinaserecep tor
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Gly (761)	Phe (762)	Pro (763)
Asp	ren	Thr
O	ပ	O
<u> </u>	⊢	⋖
TTCAATGTTGTAT TTGTCAATATAG[T /C]CATATAAAATCTT CTGTCCCCAGAAC	TGTAAAATCGAAT ATCATAGTCTGT[T /GJAACGTCTGGTA CAATTGCTTGAAG T	TCGGCTAGGCAG CCTCCATCCTCAC [A/C]CCCCTTATCA CATCGCGTGGC ATG
	2096	1107
cg43917871 1713	cg43917871	cg43322545
532	533	534

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	(19q13.1	_									
									-		
0								<u></u>			
kinaserecep Human Gene SWISSNEW-	ID:P30530 TYROSINE-PROTEIN	KINASE RECEPTOR UFO	PRECURSOR (EC 2.7.1.112) (AXL	ONCOGENE) - HOMO SAPIENS	(HUMAN), 887	aa. pcls:SWISSPROT-ID:P30530	TYROSINE-PROTEIN KINASE	RECEPTOR UFO PRECURSOR (EC	2.7.1.112) (AXL ONCOGENE) -	HOMO SAPIENS (HUMAN), 887 aa.	
kinaserecep	tor										
NON-	CONSER tor	VATIVE									
<u>G</u>	(764)									• •	
Asp											
၅											i
cg43322545 2116 TTCCTCCTCTATT A	ccceectceeee	[A/G]CCAGCCAGT	GTACCTGCCCACT	CAG		-					
2116											
cg43322545	-										
535											

(14q21)	6 (6p21.3)
3.90E-139	9.10E-147 6 (6
Human Gene Homologous to SWISSNEW-ID:P17931 GALECTIN-3 (GALACTOSE-SPECIFIC LECTIN 3) (MAC-2 ANTIGEN) (IGE-BINDING PROTEIN) (35 KD LECTIN) (CARBOHYDRATE BINDING PROTEIN 35) (LAMININ-BINDING PROTEIN) (BALACTOSIDE-BINDING PROTEIN) (GALACTOSIDE-BINDING PROTEIN) (GALACTOSE-SPECIFIC LECTIN 3) (MAC-2 ANTIGEN) (IGE-BINDING PROTEIN) (35 KD LECTIN) (CARBOHYDRATE BINDING PROTEIN) (35 KD LECTIN) (CARBOHYDRATE BINDING PROTEIN) (CAMININ-BINDING PROTEIN) (CAMININ-BINDING PROTEIN) (GALACTOSIDE-BINDING PROTEIN) (GALACTOSIDE-BINDING PROTEIN) (GALACTOSIDE-BINDING PROTEIN) (GALBP) - HOMO SAPIENS (HUMAN), 249 aa.	Human Gene Homologous to SWISSPROT-ID:P28068 CLASS II HISTOCOMPATIBILITY ANTIGEN, M BETA CHAIN PRECURSOR - HOMO SAPIENS (HUMAN), 263 aa.
laminin n	МНС
NON- CONSER VATIVE	NON- CONSER VATIVE
His (765)	Glu (766)
<u>අ</u>	Ala
<u> </u>	∢
O	O
TCCGGGATAAGCT CCAGGTGCTCCA[GT]GGTAGGCGC CTGGAGGTGCCT GTCC	AAGCTTGTCATGC CTCACAGCAGTG C/AJGCACAAGACT GCCAGCCCAAT GGA
863	718
cg43958558	cg43966144
929	537

6 (6p21.3)	6 (6p21.3)	19	19	
9.10E-147 6 (6	3.70E-134 (1.80E-113	1.80E-113	2.30E-71
Human Gene Homologous to SWISSPROT-ID: P28068 CLASS II HISTOCOMPATIBILITY ANTIGEN, M BETA CHAIN PRECURSOR - HOMO SAPIENS (HUMAN), 263 aa.	Human Gene Homologous to SWISSPROT-ID:P06340 HLA CLASS II HISTOCOMPATIBILITY ANTIGEN, DZ ALPHA CHAIN PRECURSOR (MHC DN-ALPHA) - HOMO SAPIENS (HUMAN), 250 aa.	Human Gene Homologous to SPTREMBL-ID:Q95368 HLA CLASS I INHIBITORY NK RECEPTOR - HOMO SAPIENS (HUMAN), 455 aa.	Human Gene Homologous to SPTREMBL-ID:Q95368 HLA CLASS I INHIBITORY NK RECEPTOR - HOMO SAPIENS (HUMAN), 455 aa.	misc_chann Human Gene Similar to SPTREMBL- 2.30E-71 ID:P91197 SIMILAR TO LIGAND- GATED IONIC CHANNEL PROTEIN - CAENORHABDITIS ELEGANS, 461 aa.
MHC	MHC	MHC	MHC	misc_chann el
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Thr (767)	lle (768)	Ala (769)	Ala (770)	Ala (771)
e	Thr	Pro	Thr	Thr
ပ	<u> </u>	o	<u>ق</u>	ڻ ن
—	O '	o	∢	4
ACTTACACCTGTG TGGTAGAGCACA T/CJTGGGGCTCCT GAGCCCATCCTTC GG	GGCCTGGTGGGC TTCCTCGTGGGCA [C/T]CGTCCTCATC ATCATGGGCACAT AT	CTGAGCCCAGAG CGTTGTCTCCTGC [C/G]CATGAGCAC CACAGTCAGGCC TTGA	AGCCGGCCGGG CCCCACGGTTCG C[A/G]CAGGAGAG AACGTGACCTTGT CCTG	CCGGCTGTGCTC AGGGGTGTGGGG T[A/G]CGGATACA GAGGAGCGGCTG GTGGA
823	206	1044	424	340
cg43966144	cg42686658	cg38337333	cg38337333	cg42481172
538	539	540	541	542

Ñ	(2)	1.2		
8 (8p11.2)	8 (8p11.2)	17 (17q11.2)	×	
	6.10E-70	0	0	1.40E-157
misc_chann Human Gene Similar to SPTREMBL- 6.10E-70 ID:P91197 SIMILAR TO LIGAND-GATED IONIC CHANNEL PROTEIN - CAENORHABDITIS ELEGANS, 461 aa.	Human Gene Similar to SPTREMBL- ID:P91197 SIMILAR TO LIGAND- GATED IONIC CHANNEL PROTEIN - CAENORHABDITIS ELEGANS, 461 aa.	Human Gene SWISSPROT. ID:P20393 V-ERBA RELATED PROTEIN EAR-1 - HOMO SAPIENS (HUMAN), 614 aa.	Human Gene SWISSNEW- ID:P10275 ANDROGEN RECEPTOR - HOMO SAPIENS (HUMAN), 919 aa.lpcls:SWISSPROT-ID:P10275 ANDROGEN RECEPTOR - HOMO SAPIENS (HUMAN), 919 aa.	Human Gene TREMBLNEW- ID:G2935442 RIBONUCLEASE H1 - HOMO SAPIENS (HUMAN), 286 aa. pcls:TREMBLNEW-ID:G2935444 RIBONUCLEASE H1 - HOMO SAPIENS (HUMAN), 286 aa.
misc_chann el	misc_chann el	nucl_recpt	nud_recpt	nuclease
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Leu (772)	Gln (773)	Leu (774)	His (775)	Phe (776)
d D	Lys	His	<u>G</u>	Leu
-	ပ	H	O	F
o	∢	∢	ပ	U
GAAGATGCCCTC CTCAGACATGAGT [G/T]GAAAGGTTAT CAGAAATGGGTC CGC	AGATGCCCTCCTC AGACATGAGTGG[A/C]AAGGTTATCA GAAATGGGTCCG CCC	GCCTCGGGCTTC CACTACGGTGTG C[AT]CGCCTGCG AGGGCTGCAAGG GCTTT	AGCGGGACGGTC CGGAGCAAGCCC A[G/C]AGGCAGAG GAGGCGACAGAG GGAAA	GTGCCGGGAGTG AGCGATGAGCTG G[C/T]TTCTGTTCC TGGCCCACAGAG TCGC
238	240	1067	89	91
cg3000465	cg3000465	cg43249083	cg44928796	cg43323772
543	544	545	546	547

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	12	12	14
6.00E-150	1.10E-97	1.10E-97	8.90E-101
Human Gene Homologous to SPTREMBL-ID:Q13692 BCR/ABL FUSION PROTEIN - HOMO SAPIENS (HUMAN), 284 aa (fragment).	Human Gene Similar to SWISSPROT-ID:P01118 TRANSFORMING PROTEIN P21/K- RAS 2B - HOMO SAPIENS (HUMAN), 188 aa.	Human Gene Similar to SWISSPROT-ID:P01118 TRANSFORMING PROTEIN P21/K- RAS 2B - HOMO SAPIENS (HUMAN), 188 aa.	Human Gene Homologous to SWISSPROT-ID:P18283 GLUTATHIONE PEROXIDASE- GASTROINTESTINAL (EC 1.11.1.9) (GSHPX-GI) (GLUTATHIONE PEROXIDASE-RELATED PROTEIN 2) (GPRP) - HOMO SAPIENS (HUMAN), 190 aa.
oncogene	oncogene	oncogene	peroxidase
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Phe (777)	Cys (778)	His (779)	Ser (780)
Cys	Gly	Gin	Cys
H	H	ပ_	 -
ග	၅	⋖	A
GGCTATAATCACA ATGGGGAATGGT[GTJTGAAGCCCAA ACCAAAAATGGCC AA	ATATAAACTTGTG GTAGTTGGAGCT[GAJGTGGCGTAG GCAAGAGTGCCTT GAC	TGGATATTCTCGA CACAGCAGGTCA[A/C]GAGGAGTACA GTGCAATGAGGG ACC	CTGTTCAGGATCT A CCTCATTCTGACIA MGTTCTCCTGAT GTCCAAATTGGTT G
608	155	304	706
cg42732993	cg42904626	cg42904626	cg42691989
548	549 (************************************	550	551
	inginger		

7		(11922)	
0	0	3.20E-302	2.40E-155
Human Gene TREMBLNEW- ID:G2262075 IAR/RECEPTOR-LIKE PROTEIN-TYROSINE PHOSPHATASE PRECURSOR - HOMO SAPIENS (HUMAN), 1015 aa.	Human Gene SWISSPROT- ID:P23469 PROTEIN-TYROSINE PHOSPHATASE EPSILON PRECURSOR (EC 3.1.3.48) (R-PTP- EPSILON) - HOMO SAPIENS (HUMAN), 700 aa.	Human Gene SWISSPROT- ID:P54613 PROTEIN PHOSPHATASE PP2A, 65 KD REGULATORY SUBUNIT, BETA ISOFORM (PROTEIN PHOSPHATASE PP2A SUBUNIT A, BETA ISOFORM) (P65-BETA) - SUS SCROFA (PIG), 602 aa (fragment).	phosphoryla Human Gene SWISSPROT- se ID:P00491 PURINE NUCLEOSIDE PHOSPHORYLASE (EC 2.4.2.1) (INOSINE PHOSPHORYLASE) (PNP) - HOMO SAPIENS (HUMAN), 289 aa.
phosphatas e	phosphatas e	phosphatas e	phosphoryla se
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Pro (781)	Glu (782)	Thr (783)	Ser (784)
Ser	Gly	<u>a</u>	Gly
O	F	<u>ග</u>	-
4	ပ	∢	U
AGGTCCTCGCGG AGCTGGGTCCGG G[A/G]CCCGGGAG GGTAGGTCAGCG CAGAC	CTGGCGCACTACT CGGACCTGCTCC[C/TJCCTGGCGGG CCTGGGGCTGAT TGAG	GCACAAGGAACG GAATTGCTGTCTG [A/G]TTTCTGCTTT AACAGCATTTGAT GC	CTTCGGGGAAAG TTGGGGATTTCAC [C/T]GTAGTCAAAG ATCTGGGCCTGA GTT
4096	368	3187	1330
cg43917453	cg43947363	cg43928335	cg43996195
552	553	554	555

19 (19q13.3)	6 (6p12)
0	0
Human Gene SWISSNEW- ID:P28340 DNA POLYMERASE DELTA CATALYTIC CHAIN (EC 2.7.7.7) - HOMO SAPIENS (HUMAN), 1107 aa. Ipcls:SWISSPROT-ID:P28340 DNA POLYMERASE DELTA CATALYTIC CHAIN (EC 2.7.7.7) - HOMO SAPIENS (HUMAN), 1107 aa.	polymerase Human Gene SWISSNEW- ID:P25205 DNA REPLICATION LICENSING FACTOR MCM3 (DNA POLYMERASE ALPHA HOLOENZYME-ASSOCIATED PROTEIN P1) (RLF BETA SUBUNIT) (P102 PROTEIN) - HOMO SAPIENS (HUMAN), 808 aa.jpcis:SWISSPROT-ID:P25205 DNA REPLICATION LICENSING FACTOR MCM3 (DNA POLYMERASE ALPHA HOLOENZYME-ASSOCIATED PROTEIN P1) (RLF BETA SUBUNIT) (P102 PROTEIN) - HOMO SAPIENS (HUMAN), 808 aa.
polymerase	polymerase
NON- CONSER VATIVE	NON- CONSER VATIVE
Arg (785)	Gly (786)
Q. L	Arg
O	O
4	ပ
AGGTCCTCCTCGA A ATTGGGATGGCC[AGJAGGTGCATCA TCATCATCCCAGA GG	CTCAGACCATGTC C CTTCGGATGCAC[C/G]GTTACAGAGC ACCTGGGGAGCA GGA
3340	1593
cg44022214	cg43958858
556	257

12 (12p13)	12 (12p13)	12 (12p13)	(1)
0	0	0	2.40E-59
Human Gene SWISSPROT- ID:P22460 VOLTAGE-GATED POTASSIUM CHANNEL PROTEIN KV1.5 (HK2) (HPCN1) - HOMO SAPIENS (HUMAN), 613 aa.	Human Gene SWISSPROT- ID:P22460 VOLTAGE-GATED POTASSIUM CHANNEL PROTEIN KV1.5 (HK2) (HPCN1) - HOMO SAPIENS (HUMAN), 613 aa.	Human Gene SWISSPROT- ID:P22460 VOLTAGE-GATED POTASSIUM CHANNEL PROTEIN KV1.5 (HK2) (HPCN1) - HOMO SAPIENS (HUMAN), 613 aa.	Human Gene Similar to SWISSPROT-ID:P50280 MATRILYSIN PRECURSOR (EC 3.4.24.23) (PUMP-1 PROTEASE) (UTERINE METALLOPROTEINASE) (MATRIX METALLOPROTEINASE- 7) (MMP-7) (MATRIN) - RATTUS NORVEGICUS (RAT), 267 aa.
potassium_ channel	potassium_ channel	potassium_ channel	protease
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Leu (787)	Gly (788)	Ala (789)	His (790)
Gin	Arg	Р	Asp
-	o	<u>ග</u>	ပ
4	O	O	<u>ဖ</u>
CGCTTTGAGACG CAGCTGGGCACC C[A/T]GGCGCAGT TCCCCAACACACT CCTG	GGGGGACGAGGC C CATGGAGCGCTT C[C/G]GCGAGGAT GAGGCTTCATTA AAGA	CATTAAAGAAGAG GAGAAGCCCCTG C/GJCCCGCAACG AGTTCCAGCGCC AGGT	TGGAGGGGATGC TCATTTGATGAA G/CJATGAAAGGTG GACCAACAATTTC AG
641	898	910	868
cg42534568	cg42534568	cg42534568	cg43154190
558	559	560	561

(11922)	6 (6pter)	19
2.40E-59	1.60E-124 6 (6pter)	0
Human Gene Similar to SWISSPROT-ID:P50280 MATRILYSIN PRECURSOR (EC 3.4.24.23) (PUMP-1 PROTEASE) (UTERINE METALLOPROTEINASE) (MATRIX METALLOPROTEINASE- 7) (MMP-7) (MATRIN) - RATTUS NORVEGICUS (RAT), 267 aa.	Human Gene Homologous to SWISSPROT-ID:P16083 NAD(P)H DEHYDROGENASE (QUINONE) 2 (EC 1.6.99.2) (QUINONE REDUCTASE) (DT-DIAPHORASE) (AZOREDUCTASE) (PHYLLOQUINONE REDUCTASE) (MENADIONE REDUCTASE) - HOMO SAPIENS (HUMAN), 231 aa.	Human Gene TREMBLNEW- ID:G2725625 ACETOLACTATE SYNTHASE - HOMO SAPIENS (HUMAN), 632 aa.
protease	reductase	synthase
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Thr (791)	Cys (792)	Glu (793)
Arg	Á IO	Gly
O	 -	L
ပ	ပ	ပ
GATGAAAGGTGG ACCAACAATTTCA[G/CJAGAGTACAAC TTACATCGTGTTG CG	ATTCTACGATTCC GGTTTGCTCCAG[G/T]GTAAACTAGC GCTCCTTTCCGTA AC	CGCTGCCTTCTCC C CGAAAGGTCTGC[C/IJCCTTCACGCG TTCGGCTTCCCGC AG
923	694	1081
cg43154190	cg43927549	cg43325541
562	563	564

7.40E-65	7.40E-65
Human Gene Similar to SWISSNEW- 7.40E-65 ID:P39062 ACETYL-COENZYME A SYNTHETASE (EC 6.2.1.1) (ACETATECOA LIGASE) (ACYL-ACTIVATING ENZYME) (ACETYL-COA SYNTHASE) - BACILLUS SUBTILIS, 572 aa. BACILLUS (ACETYL-COENZYME A SYNTHETASE (EC 6.2.1.1) (ACETATECOA LIGASE) (ACYL-ACTIVATING ENZYME) (ACETYL-COA SYNTHASE) - BACILLUS SUBTILIS, 572 aa.	Human Gene Similar to SWISSNEW- 7.40E-65 ID:P39062 ACETYL-COENZYME A SYNTHETASE (EC 6.2.1.1) (ACETATECOA LIGASE) (ACYL- ACTIVATING ENZYME) (ACETYL- COA SYNTHASE) - BACILLUS SUBTILIS, 572 aa.jpcls:SWISSPROT-ID:P39062 ACETYL-COENZYME A SYNTHETASE (EC 6.2.1.1) (ACETATECOA LIGASE) (ACYL- ACTIVATING ENZYME) (ACETYL- COA SYNTHASE) - BACILLUS SUBTILIS, 572 aa.
synthase	synthase
NON- CONSER VATIVE	NON- CONSER VATIVE
Leu (794)	Thr (795)
Ser	Ala
F	⋖
O	ပ
GTGAAGGCATTTG (TGCTGCTGCTGCTGCTGATCCTGACCCAGGATCCAGGACCAGGAAAAAAAA	GACTGTCACAGG GAAAATTCAACGA [G/A]CCAAGCTTC GAGACAAGGAGT GGAA
	1617
cg43064068 1474	cg43064068
565	200

F	=	£ •	5
2 (2)22	2 (2p21)	8 (8p21)	5 (5q35.1)
0	0	1.60E-252	8.30 <u>E</u> -240
Human Gene SWISSPROT-ID:P23945 FOLLICLE STIMULATING HORMONE RECEPTOR PRECURSOR (FSH-R) (FOLLITROPIN RECEPTOR) - HOMO SAPIENS (HUMAN), 695 aa.	Human Gene SWISSPROT- ID:P23945 FOLLICLE STIMULATING HORMONE RECEPTOR PRECURSOR (FSH-R) (FOLLITROPIN RECEPTOR) - HOMO SAPIENS (HUMAN), 695 aa.	Human Gene SWISSPROT- ID:P35348 ALPHA-1A ADRENERGIC RECEPTOR (ALPHA 1A-ADRENOCEPTOR) (ALPHA-1C ADRENERGIC RECEPTOR) - HOMO SAPIENS (HUMAN), 466 aa.	Human Gene SWISSPROT- ID:P21728 D(1A) DOPAMINE RECEPTOR - HOMO SAPIENS (HUMAN), 446 aa.
tm7	tm7	tm7	tm7
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Ala (796)	Thr (797)	Cys (798)	Met (799)
Thr	Asn	Arg	<u>=</u>
<u>ဖ</u>	O	 -	ပ
A	⋖	O	ပ
GCAAGAAGTTGAT A TATATGACTCAG(A /G)CTAGGGGTCA GAGATCCTCTCTG GC	AAGGCCAACAAC CTGCTCTACATCA[AVCJCCCTGAGGC CTTCCAGAACCTT CCC	GAATGTCTTGAGA C ATCCAGTGTCTC[C/T]GCAGAAAGCA GTCTTCCAAACAT GC	TCTCTCTGGAGAA GATCCAACCCAT[C/GJACACAAAACG GTCAGCACCCAA CCT
1119	535	1475	1590
cg36988276	cg36988276	cg32296848	cg2524739
567	568	569	570

				3 (3q25)
8.50E-199	1.40E-196	2.50E-160	2.10E-67	2.20E-207
Human Gene SWISSPROT- ID:P04001 GREEN-SENSITIVE OPSIN (GREEN CONE PHOTORECEPTOR PIGMENT) - HOMO SAPIENS (HUMAN), 364 aa.	Human Gene TREMBLNEW- ID:G2736282 G PROTEIN COUPLED RECEPTOR - HOMO SAPIENS (HUMAN), 362 aa.	Human Gene TREMBLNEW-ID:E1246031 OLFACTORY RECEPTOR - HOMO SAPIENS (HUMAN), 312 aa.	Human Gene Similar to SWISSPROT-ID:P30975 TACHYKININ-LIKE PEPTIDES RECEPTOR 99D (DTKR) - DROSOPHILA MELANOGASTER (FRUIT FLY), 519 aa.	Human Gene SWISSPROT- ID:P26022 PENTAXIN-RELATED PROTEIN PTX3 PRECURSOR (TUMOR NECROSIS FACTOR- INDUCIBLE PROTEIN TSG-14) - HOMO SAPIENS (HUMAN), 381 aa.
tm7	tm7	tm7	tm7	tnf
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
(800)	Gly (801)	Ser (802)	Thr (803)	Leu (804)
Thr	Ser	Phe	<u>=</u>	Met
<u> </u>	ပ	U	U .	F
U	⋖	 	–	⋖
AGTGTCTGGATGA TCTTTGTGGTCA[C //IJTGCATCCGTTT TCACAAATGGGCT T	CATCTTCTCCATC AACCTCTTCAGC[A/G]GCATTTTCTT CCTCACGTGCATG	TCTTTTGTGGACA TCTGCTTCTCCT[T /C]CACCACCGTCC CCAAGATGCTGG CC	GGCCCTGAGAGC AACACCACGGGC A[T/C]CACAGCCTT CTCCATGCCCAG CTGG	TGGAAGCGTGCA TCCAGTGAGACCA [A/I]TGAGGCTTGA GTCTTTTAGTGCC TG
394	519	285	89	688
cg2320320	cg43264978	cg3003708	cg38841806	cg43336100
571	572	573	574	575

8		19 19p13.3	12
2.30E-55	0	4.30E-275 19 (18)	1.70E-177
Human Gene Similar to TREMBLNEW-ID:G2653845 TNF RECEPTOR-RELATED RECEPTOR FOR TRAIL - HOMO SAPIENS (HUMAN), 386 aa.	transcriptfac Human Gene SPTREMBL- ID:Q14872 METAL-REGULATORY TRANSCRIPTION FACTOR - HOMO SAPIENS (HUMAN), 753 aa.	transcriptfac Human Gene SWISSPROT- ID:P35269 TRANSCRIPTION INITIATION FACTOR IIF, ALPHA SUBUNIT (TFIIF-ALPHA) (TRANSCRIPTION INITIATION FACTOR RAP74) - HOMO SAPIENS (HUMAN), 517 aa.	transcriptfac Human Gene SPTREMBL- ID:Q07279 TRANSCRIPTION FACTOR NF-E2 - MUS MUSCULUS (MOUSE), 373 aa.
tnfreceptor	transcriptfac tor	transcriptfac tor	transcriptfac tor
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Pro (805)	His (806)	(807)	Leu (808)
Leu	Tyr	ren Len	Phe
O	<u>ග</u>	-	ပ
F	∢ .	U	ပ
GAGGCGCGGGGA GCCAGGCCTGGG C[T/C]CCGGGTCC CCAAGACCCTTGT GCTC	ACTCGCACGTGG ATCCTGAGGCTGT [A/G]AGAGGTAAG GAAGGCTTTGCCA	CATTGACAGCGA GGCCTCCTCAGC C[C/T]TCTTCATGG CGAAGAAGAAGA CGCC	TGACAGAGCTGTA C CCGTGACATTTT[C /G]CAGCACCTTCG GGATGAATCAGG CA
234	2857	1285	1346
cg43335562	cg43140548	cg43011561	cg43998970
576	577	578	579

b 6)	4
6	
6.50E-192 9 (sqs	
transferase Human Gene SWISSPROT- ID:P16442 FUCOSYLGLYCOPROTEIN ALPHA- N- ACETYLGALACTOSAMINYLTRANS FERASE (EC 2.4.1.40) (HISTO- BLOOD GROUP A TRANSFERASE) (A TRANSFERASE) / FUCOSYLGLYCOPROTEIN 3- ALPHA- GALACTOSYLTRANSFERASE (EC 2.4.1.37) (HISTO-BLOOD GROUP B TRANSFERASE) (B TRANSFERASE) (B TRANSFERASE) (B TRANSFERASE) (B SAPIENS (HUMAN), 354 aa.	
transferase	
NON- CONSER VATIVE	
(809)	
Pro	
<u> </u>	
O	
CACTACTATGTCT C TCACCGACCAGC[C/TJGGCCGCGGT GCCCCGCGTGAC GCTG	
464	
cg2537639	
280	

3	=
ID:P16442 FUCOSYLGLYCOPROTEIN ALPHA-N-N-ACETYLGALACTOSAMINYLTRANS FERASE (EC 2.4.1.40) (HISTO-BLOOD GROUP A TRANSFERASE) (A TRANSFERASE) / FUCOSYLGLYCOPROTEIN 3-ALPHA-GALACTOSYLTRANSFERASE (EC 2.4.1.37) (HISTO-BLOOD GROUP B TRANSFERASE) (B TRANSFERASE) (B TRANSFERASE) (NAGAT) - HOMO SAPIENS (HUMAN), 354 aa.	
CONSER	
(8)	
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AGTGCTGGGGGT G[C/G]GCGCCTAC AAGCGCTGGCAG GACGT	

9 (9034)	/: aka) a														
(6.50E-192 9 (9034)								-							
transferase Human Gene SWISSPROT-	ID:P16442	FUCOSYLGLYCOPROTEIN ALPHA-	ż	ACETYLGALACTOSAMINYLTRANS	FERASE (EC 2.4.1.40) (HISTO-	BLOOD GROUP A TRANSFERASE)	(A TRANSFERASE) /	FUCOSYLGLYCOPROTEIN 3-	ALPHA-	GALACTOSYLTRANSFERASE (EC	2.4.1.37) (HISTO-BLOOD GROUP B	TRANSFERASE) (B	TRANSFERASE) (NAGAT) - HOMO	SAPIENS (HUMAN), 354 aa.	
transferase															
NON-	CONSER	VATIVE				-									
<u>=</u>	(811)														
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GGTGTGCGTGGA	CGTGGACATGGA	G[T/A]TCCGCGAC	CACGTGGGCGTG	GAGAT											
643															
cg2537639 643			-												
285															

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6.50E-192 9 (9q34)	
Human Gene SWISSPROT- ID:P16442 FUCOSYLGLYCOPROTEIN ALPHA- N- ACETYLGALACTOSAMINYLTRANS FERASE (EC 2.4.1.40) (HISTO- BLOOD GROUP A TRANSFERASE) (A TRANSFERASE) / FUCOSYLGLYCOPROTEIN 3- ALPHA- GALACTOSYLTRANSFERASE (EC 2.4.1.37) (HISTO-BLOOD GROUP B TRANSFERASE) (B TRANSFERASE) (B TRANSFERASE) (NAGAT) - HOMO SAPIENS (HUMAN), 354 aa.	
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TCCGCTGTTCGG G CACCCTGCACCC C[G/A]GCTTCTAC GGAAGCAGCCGG GAGGC	
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6.50E-192 9 (9q34)	
Human Gene SWISSPROT- ID:P16442 FUCOSYLGLYCOPROTEIN ALPHA- N- ACETYLGALACTOSAMINYLTRANS FERASE (EC 2.4.1.40) (HISTO- BLOOD GROUP A TRANSFERASE) (A TRANSFERASE) / FUCOSYLGLYCOPROTEIN 3- ALPHA- GALACTOSYLTRANSFERASE (EC 2.4.1.37) (HISTO-BLOOD GROUP B TRANSFERASE) (B TRANSFERASE) (B TRANSFERASE) (B SAPIENS (HUMAN). 354 aa.	
transferase	
NON- CONSER VATIVE	
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CAAGGACGAGGG C CGATTTCTACTAC[C/A]TGGGGGGGT TCTTCGGGGGGT CGGT	
793	
cg2537639	

3 (9q.74)	15	3 (3p25)
6.50E-192 9 (9q34)	0	0
Human Gene SWISSPROT- ID:P16442 FUCOSYLGLYCOPROTEIN ALPHA-N- N- ACETYLGALACTOSAMINYLTRANS FERASE (EC 2.4.1.40) (HISTO- BLOOD GROUP A TRANSFERASE) (A TRANSFERASE) / FUCOSYLGLYCOPROTEIN 3- ALPHA- GALACTOSYLTRANSFERASE (EC 2.4.1.37) (HISTO-BLOOD GROUP B TRANSFERASE) (B TRANSFERASE) (B TRANSFERASE) (B SAPIENS (HUMAN), 354 aa.	Human Gene SWISSPROT- ID:Q04671 P PROTEIN (MELANOCYTE-SPECIFIC TRANSPORTER PROTEIN) - HOMO SAPIENS (HUMAN), 838 aa.	Human Gene SWISSPROT- ID:P31641 SODIUM- AND CHLORIDE-DEPENDENT TAURINE TRANSPORTER - HOMO SAPIENS (HUMAN), 620 aa.
transferase	transport	transport
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Met (814)	Asp (815)	Met (816)
	A A	lle
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O	U	O
GTTCTTCGGGGG GTCGGTGCAAGA G[G/A]TGCAGCGG CTCACCAGGGCC TGCCA	CACATCGTGGTG GAGCTGACCCAG G[C/A]TGACGCTTT GGGCTCCAGGTG GCGG	GTCTGAAAGATTT CCACAAGGACATI C/GJCTGAAGCCCT CACCAGGGAAGA GCC
826	3249	427
cg2537639	cg42742340	cg41653463
585	586	587

5 (5p15.3)	5 (5p15.3)	16	17	10 (10q25)
0	0	0	o	0
Human Gene SWISSPROT- ID:Q01959 SODIUM-DEPENDENT DOPAMINE TRANSPORTER (DA TRANSPORTER) (DAT) - HOMO SAPIENS (HUMAN), 620 aa.	Human Gene SWISSPROT- ID:Q01959 SODIUM-DEPENDENT DOPAMINE TRANSPORTER (DA TRANSPORTER) (DAT) - HOMO SAPIENS (HUMAN), 620 aa.	Human Gene SPTREMBL- ACC:Q16084 P130 - HOMO SAPIENS (HUMAN), 1139 aa.	Human Gene SWISSPROT- ACC:P42694 HYPOTHETICAL PROTEIN KIAA0054 - Homo sapiens (Human), 1942 aa.	Human Gene SWISSNEW- ACC:P46013 ANTIGEN KI-67 - Homo sapiens (Human), 3256 aa.
transport	transport	UNCLASSI FIED	UNCLASSI FIED	UNCLASSI
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
His (817)	Ser (818)	Pro (819)	Arg (820)	Тгр (821)
Asp	Phe	Ala	Giy	Leu
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CAAGTTCACCAAC G AACTGCTACAGG[G/CJACGCGATTGT CACCACCTCCATC AA	TCCTCCGGCTTCG TCGTCTTCTCCT[T /CJCCTGGGGTACA TGCCACAGAAGC AC	CTGCGGTAGCTG TCCCAGGCCTCG G[C/G]CCGCGCCG CCTCGTCCATGTT GAGG	GCATAGGACATG GCGGGCTTGCCC C[C/G]CGCAGAGC TCTGGGGGCTAC	CAACCCCTAGAAG ACCTGGCTGGCT T/GJGAAAGAGCTC TTCCAGACACCAG
1165	1232	4776	522	4604
cg40351913	cg40351913	cg43955093 4776	cg43055918	cg43968854
588	589	290	591	592

4 (4qzz)				
0	0	0	0	0
Human Gene SWISSPROT- ACC:P55157 MICROSOMAL TRIGLYCERIDE TRANSFER PROTEIN, LARGE SUBUNIT PRECURSOR - Homo sapiens (Human), 894 aa.	Human Gene SPTREMBL- ACC:Q15840 ZINC FINGER PROTEIN BASONUCLIN - HOMO SAPIENS (HUMAN), 994 aa.	Human Gene SPTREMBL- ACC:Q15840 ZINC FINGER PROTEIN BASONUCLIN - HOMO SAPIENS (HUMAN), 994 aa.	Human Gene SPTREMBL- ACC:Q15840 ZINC FINGER PROTEIN BASONUCLIN - HOMO SAPIENS (HUMAN), 994 aa.	Human Gene SPTREMBL- ACC:Q15840 ZINC FINGER PROTEIN BASONUCLIN - HOMO SAPIENS (HUMAN), 994 aa.
UNCLASSI FIED	UNCLASSI	UNCLASSI	UNCLASSI	UNCLASSI
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Leu (822)	His (823)	Cys (824)	Tyr (825)	lle (826)
Phe	n n	Ser	Asn	Asn
ပ	—		-	⊢
F	ပ	⋖	⋖	⋖
CCATTGTTCAAGA CATCCTACGTTI[T /G]GAAATGCCTGC AAGCAAATTGTC C	ACAATTCAGAGAG GGAGACTGAGCA[G/TJACACCAGCAT TGATCATGGTGCC AA	ATCAGGAAAGGT GTTGGATCACTGG [AT]GCATCATGAC CAGTGAGGAAGA AGT	CCCCAAACAGGA AGTCCATGGGCC C[A/T]ACCCTGACA GCAGCTTCTTAAC	CCCAAACAGGAA GTCCATGGGCCC A[A/T]CCCTGACA GCAGCTTCTTAAC TTCC
1841	2001	553	937	938
cg43070241	cg43262121	cg43262121	cg43262121	cg43262121
593	594	595	596	597

	6 (6q14)	6		2 (2cen)
0	9.1e-313	2.00E-301	6.10E-236	3.00E-227 2 (2cen)
Human Gene SWISSPROT- ACC:P02771 ALPHA- FETOPROTEIN PRECURSOR (ALPHA-FETOGLOBULIN) (ALPHA- 1- FETOPROTEIN) - Homo sapiens (Human), 609 aa.	Human Gene SWISSPROT- ACC:P21589 5'-NUCLEOTIDASE PRECURSOR (EC 3.1.3.5) (ECTO- NUCLEOTIDASE) (5'-NT) (CD73 ANTIGEN) - Homo sapiens (Human), 574 aa.	Human Gene SWISSNEW- ACC:P42568 AF-9 PROTEIN - Homo sapiens (Human), 568 aa.	Human Gene SWISSNEW- ACC:043913 ORIGIN RECOGNITION COMPLEX SUBUNIT 5 - Homo sapiens (Human), 435 aa.	Human Gene SWISSPROT- ACC:P09529 INHIBIN BETA B CHAIN PRECURSOR (ACTIVIN BETA-B CHAIN) - Homo sapiens (Human), 407 aa.
UNCLASSI FIED	UNCLASSI	UNCLASSI	UNCLASSI FIED	UNCLASSI FIED
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Gly (827)	Thr (828)	Ser (829)	Arg (830)	Ala (831)
ng Olin	Ala	Ala	Gly	Ser
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CTGGAAGAACTTT GCCATGAGAAAGI A/GJAATTTTGGAG AAGTACGGACATT CA	AATGATTAACAAC AACCTGAGACACI GAJCGGATGAAAT GTTCTGGAACCAC GT	GCCCCAGGCAT GGCTAGCTCGTG T[G/T]CCGTGCAG GTGAAGCTGGAG CTGGG	CAGCTTTCCATCC ATTTTATTTAT[6/ AJGACATACTGCT AGTGGAAAGACCT A	CAGGTGTCCTGC GAGCCACCCGGG G[A/C]TCCGGGTG GCGGGGGTGGCG
501	1235	367	223	3034
cg44024279	cg44928804	cg43317253	cg41637661	cg42913861
298	599	009	601	602

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15		12
1.40E-188 15	4.20E-150	3.70E-142
Human Gene SWISSPROT- ACC:P09471 GUANINE NUCLEOTIDE-BINDING PROTEIN G(O), ALPHA SUBUNIT 1 - Homo sapiens (Human), 353 aa.	Human Gene Homologous to SWISSPROT-ACC:P14207 FOLATE RECEPTOR BETA PRECURSOR (FR-BETA) (FOLATE RECEPTOR 2) (FOLATE RECEPTOR, FETAL/PLACENTAL) (PLACENTAL FOLATE-BINDING PROTEIN) (FBP) - Homo sapiens (Human), 255 aa.	UNCLASSI Human Gene Homologous to FIED SWISSPROT-ACC:P21583 STEM CELL FACTOR PRECURSOR (SCF) (MAST CELL GROWTH FACTOR) (MGF) (C-KIT LIGAND) - Homo sapiens (Human), 273 aa.
UNCLASSI FIED	UNCLASSI	UNCLASSI
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Gly (832)	Arg (833)	Gly (834)
Ser	Ser	Arg
<u>o</u>	ပ	o
⋖	⋖	4
AGAGGAGAGAGC CGCCCTCGAGCG G[A/G]GCAAGGCG ATTGAGAAAAACC TCAA	GCCAGAGTTGCA GCATCAGGGCCA G[AC]CTGAGCAG GAGACCCCCAGT CCCAT	TAGGAATGACAGC A AGTAGCAGTAATI A/GJGGAAGGCCA AAAATCCCCCTGG AGA
526	335	787
cg43249389	cg43919239	cg41642952
603	604	605

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1.60E-134	1.60E-116	2.20E-98	2.90E-87 ;
Human Gene Homologous to SWISSNEW-ACC:P08637 LOW AFFINITY IMMUNOGLOBULIN GAMMA FC RECEPTOR III-1 PRECURSOR (FC- GAMMA RIII) (FCRIII) (IGG FC RECEPTOR III-1) (FC-GAMMA RIII-ALPHA) (CD16) (FCR-10) - Homo sapiens (Human), 254 aa.	Human Gene Homologous to SWISSPROT-ACC:P50539 MAX INTERACTING PROTEIN 1 (MXI1 PROTEIN) - Homo sapiens (Human), 228 aa.	Human Gene Similar to TREMBLNEW-ACC:AAD38008 GLYOXALASE-I (EC 4.4.1.5) - HOMO SAPIENS (HUMAN), 184 aa.	Human Gene Similar to SWISSPROT-ACC:P49913 ANTIBACTERIAL PROTEIN FALL-39 PRECURSOR (FALL-39 PEPTIDE ANTIBIOTIC) (ANTIMICROBIAL PROTEIN CAP-18) (LL-37) - Homo sapiens (Human), 170 aa.
UNCLASSI FIED	UNCLASSI	UNCLASSI FIED	UNCLASSI
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Ser (835)	??? (836)	Ala (837)	Asn (838)
Arg	Ser	n Gln	ŢĮ.
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9	ပ	-	ပ
TGTTCCTGGAGCC G TCAATGGTACAG[G/CJGTGCTCGAG AAGGACAGTGTG ACTC	GGGCACAGAAAC ACAGCAGCGGGA G[C/S]AGCAACAC CAGCACTGCCAA	ATTGCCATTGTGG TAACTCTGGGTC[T/G]CATCATCTTC AGTGCCCCAATTG TG	GTGAAGCGGTGT ATGGGGACAGTG A[C/A]CCTCAACCA GGCCAGGGGCTC CTTT
221	391	1609	521
cg43945147 221		cg43972311	cg42556108
909	607	809	609

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i i		4			14 (14q11.2)
	2.30E-85	2.80E-73	5.90E-64	5.90E-64	1.00E-59
	Human Gene Similar to SWISSPROT-ACC:P01282 VASOACTIVE INTESTINAL PEPTIDE PRECURSOR (VIP) - Homo sapiens (Human), 170 aa.	Human Gene Similar to SPTREMBL- 2.80E-73 ACC:Q94218 CODED FOR BY C. ELEGANS CDNA CM10H5 - CAENORHABDITIS ELEGANS, 589 aa.	Human Gene Similar to SPTREMBL- 5.90E-64 ACC:O76087 GAGE-8 - HOMO SAPIENS (HUMAN), 117 aa.	Human Gene Similar to SPTREMBL- 5.90E-64 ACC:076087 GAGE-8 - HOMO SAPIENS (HUMAN), 117 aa.	Human Gene Similar to REMTREMBL-ACC:G238693 T CELL RECEPTOR VARIABLE ALPHA CHAIN - HOMO SAPIENS (HUMAN), 143 aa (fragment).
	UNCLASSI	UNCLASSI	UNCLASSI	UNCLASSI	UNCLASSI
	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
	Pro (839)	Phe (840)	Val (841)	Val (842)	Arg (843)
	띵	/aa/	Met	Met	Gly
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	⋖	<u>ග</u>	∢	⋖	ပ
	AGTGACTTCAGTA AACTCTTGGGTC ACJACTTTCTGCC AAAAAGTACCTTG AG	CGGTATAACGTCA AAAATCCTGTTT[G //ITCAGCCAAGGT TCAGAAATTGCCT C	AAGGCGCTATGTA A CAGCCTCCTGAA[A/G]TGATTGGGCC TATGCGGCCCGA GCA	TGAAGATGGTCCT GATGGGCAGGAG[A/G]TGGACCCGC CAAATCCAGAGGA GGT	ATTACTGAAGGGT GGAGAACAGAAG[G/C]GTCATGAAAA AATATCTGCTTCA TT
	487	1052	283	505	260
	cg36842490	cg43942549	cg42381630	cg42381630	cg3004395
	610	611	612	613	614

1.20E-58	1.60E-54	1.60E-54	1.60E-54	1.60E-54
Human Gene Similar to SWISSNEW- 1.20E-58 ACC:O76070 GAMMA-SYNUCLEIN (PERSYN) (BREAST CANCER- SPECIFIC GENE 1 PROTEIN) - Homo sapiens (Human), 127 aa.	Human Gene Similar to REMTREMBL-ACC:G33509 T CELL RECEPTOR - HOMO SAPIENS (HUMAN), 118 aa (fragment)	Human Gene Similar to REMTREMBL-ACC:G33509 T CELL RECEPTOR - HOMO SAPIENS (HUMAN), 118 aa (fragment).	Human Gene Similar to REMTREMBL-ACC:G33509 T CELL RECEPTOR - HOMO SAPIENS (HUMAN), 118 aa (fragment).	Human Gene Similar to REMTREMBL-ACC:G33509 T CELL RECEPTOR - HOMO SAPIENS (HUMAN), 118 aa (fragment).
UNCLASSI	UNCLASSI	UNCLASSI FIED	UNCLASSI FIED	UNCLASSI FIED
NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE	NON- CONSER VATIVE
Glu (844)	Gin (845)	Met (846)	Gin (847)	Ser (848)
Val	Leu	\ai	Leu	Phe
—	⋖	⋖	4	U
⋖	F	O	<u> </u>	<u> </u> ⊢
CACTTCCTCTTTC TCTTTGGATGCC A/TCACCCTCCTG TTGGGGGGCAGA TGG	GAAGACAAGGTG GTACAAAGCCCTC [T/AJATCTCTGGTT GTCCACGAGGGA GAC	TGTAACTCTCAAT TGCAGTTATGAA(G/A)TGACTAACTT TCGAAGCCTACTA	GAAGTGACTAACT TTCGAAGCCTAC[T/A]ATGGTACAAG CAGGAAAAGAAA GCT	AGCATATTAGATA AGAAAGAACTTT[T /CJCAGCATCCTGA ACATCACAGCCAC C
733	589	342	364	475
cg43960645	cg2526759	cg2526759	cg2526759	cg2526759
615	616	617	618	619

	17 (17q21.3 2)	17 (17q21.3 2)	
	0		1.80E-157
	Human Gene SWISSPRO1- ID:P08514 PLATELET MEMBRANE GLYCOPROTEIN IIB PRECURSOR (GPIIB) (INTEGRIN ALPHA- IIB) (CD41) - HOMO SAPIENS (HUMAN), 1039 aa.	- MBRANE CURSOR (- IIB)	Human Gene SWISSNEW- ID:Q08722 LEUKOCYTE SURFACE ANTIGEN CD47 PRECURSOR (ANTIGENIC SURFACE DETERMINANT PROTEIN OA3) (INTEGRIN ASSOCIATED PROTEIN) (IAP) (MER6) - HOMO SAPIENS (HUMAN), 323 aa. pcls:SWISSPROT-ID:Q08722 LEUKOCYTE SURFACE ANTIGEN CD47 PRECURSOR (ANTIGENIC SURFACE DETERMINANT PROTEIN OA3) (INTEGRIN ASSOCIATED PROTEIN) (IAP) (MER6) - HOMO SAPIENS (HUMAN), 323 aa.
	cadherin	cadherin	cadherin
	FRAMES HIFT	FRAMES HIFT	FRAMES
	His (849)	(850)	Glu (851)
ļ	፲ ፲	Pro	Arg
	ပ	4	дар
	gap	gap	
·	TACAGAATATGTC GTCGGTGCCCCC[gap/C]ACTTGGAG CTGGACCCTGGG AGCGG	GTCGGCTTCTTCA AGCGGAACCGGC[gap/A]CACCCCTG GAAGAAGATGATG AAGA	GTCCATCACTTCA CTTCAGTTATTC[T/ gap]CCTAGGAGGT TGTATAGTCTTCT GA
	1067	3285	2521
Γ			cg43956660
-	620	621	622

,				15)
7	11	12	3.7	15 (15q15)
0	0	0	1.80E-203	0
Human Gene SWISSPROT- ID:P12111 COLLAGEN ALPHA 3(VI) CHAIN PRECURSOR - HOMO SAPIENS (HUMAN), 3176 aa.	Human Gene SPTREMBL- ID:Q92804 PUTATIVE RNA BINDING PROTEIN RBP56 - HOMO SAPIENS (HUMAN), 592 aa.	Human Gene SPTREMBL- ID:Q92804 PUTATIVE RNA BINDING PROTEIN RBP56 - HOMO SAPIENS (HUMAN), 592 aa.	Human Gene SWISSNEW- ID:P06727 APOLIPOPROTEIN A-IV PRECURSOR (APO-AIV) - HOMO SAPIENS (HUMAN), 396 aa.jpcls:SWISSPROT-ID:P06727 APOLIPOPROTEIN A-IV PRECURSOR (APO-AIV) - HOMO SAPIENS (HUMAN), 396 aa.	glycoprotein Human Gene SWISSPROT- ID:P16452 ERYTHROCYTE MEMBRANE PROTEIN BAND 4.2 (P4.2) (PALLIDIN) - HOMO SAPIENS (HUMAN), 690 aa.
collagen	dna_rna_bi nd	dna_rna_bi nd	ų de	glycoprotein
FRAMES	FRAMES	FRAMES	FRAMES	FRAMES HIFT
Gly (852)	Arg (853)	(854)	Asp (855)	Asn (856)
Giy	Arg .	T _Y	Thr	Thr
ڻ ن	O	ပ	<u>ن</u>	∢
gap	ga D	gap	gap	gap
CTCCAGGGATAGT TGGACAGAGGG[gap/G]AGACCCTG GCTACCCAGGAC CAGCT	GCTATGGAGGCA AAATGGGAGGAA G[gap/G]AAACGAC TACAGAAATGATC AGCGC	CGGTTACTCCAGT TATGGACAAAGT[g ap/C]TATTCACAGT CCTATGGTGGTTA TG	GGCCGAGCAGCT GCGCCCAGCT G[gap/G]ACCCCCT ACGCACAGCGCA TGGAGA	CAGACTTCCACAG gap AGTGCTGGATGA[gap/A]CGCGGCCT GCCTTGCCCCAG
2429	1837	263	584	1553
cg43970982	cg42175288	cg42175288	cg41554010	cg43065549
623	624	625	626	627

14 (14q11.2			
4 2 0	~	9	20
9.90E-70	1.20E-224	1.40E-261	9.60E-262 20
glycoprotein Human Gene Similar to SWISSPROT-ID:P16452 ERYTHROCYTE MEMBRANE PROTEIN BAND 4.2 (P4.2) (PALLIDIN) - HOMO SAPIENS (HUMAN), 690 aa.	Human Gene SWISSPROT- ID:P50219 HOMEOBOX PROTEIN HB9 - HOMO SAPIENS (HUMAN), 401 aa.	Human Gene SWISSPROT- ID:P15260 INTERFERON-GAMMA RECEPTOR ALPHA CHAIN PRECURSOR (CDW119) - HOMO SAPIENS (HUMAN), 489 aa.	Human Gene SPTREMBL- ID:Q15802 SERINE/THREONINE PROTEIN KINASE KRS-2 - HOMO SAPIENS (HUMAN), 487 aa.
glycoprotein	FRAMES homeobox HIFT	interferon	kinase
FRAMES	FRAMES	FRAMES	FRAMES kinase
Leu (857)	Arg (858)	End (859)	His (860)
Leu	Pro	Leu	<u>=</u>
O	ග ·	gap	U
gap	gap	⋖	gap
TGACCACGGGGT GCTGGATGCCTG C[gap/C]TTATACAT CCTGGACCGGCG GGGGA	GCGCCGCGAGAC gap AAGGGCAGCGGA C[gap/G]CGCCTGC GGACTTGAGGGA CAGTGA	ATAAGTTACAATG CTTTTTTGTTT[A/ gap]AAAAAAAAAA AAAGTCTGTACTT TA	CTGTGGGGCTGG TTCTGTATCTGAT gap/CJATCATTCGA TTACGAAATAAAA CGT
666	1220	364	379
cg41568631	cg41637704	cg43933380	cg43072541 379
628	629	630	631

2 (29+3)	19	9	1 (1p33)
2.40E-82	9.70E-214	9.70E-214	0
Human Gene Similar to SWISSPROT-ID:P25155 COAGULATION FACTOR X PRECURSOR (EC 3.4.21.6) (STUART FACTOR) (VIRUS ACTIVATING PROTEASE) (VAP) - GALLUS GALLUS (CHICKEN), 475 aa.	Human Gene SWISSPROT- ID:P01137 TRANSFORMING GROWTH FACTOR BETA 1 PRECURSOR (TGF-BETA 1) - HOMO SAPIENS (HUMAN), 390 aa.	Human Gene SWISSPROT- ID:P01137 TRANSFORMING GROWTH FACTOR BETA 1 PRECURSOR (TGF-BETA 1) - HOMO SAPIENS (HUMAN), 390 aa.	Human Gene SWISSPROT- ID:Q03167 TGF-BETA RECEPTOR TYPE III PRECURSOR (TGFR-3) (BETAGLYCAN) - HOMO SAPIENS (HUMAN), 849 aa.
protease	fât (lgf	tgfreceptor
FRAMES	FRAMES	FRAMES tgf	FRAMES
Leu (861)	Ala (862)	Ala (863)	Ala (864)
His	Leu	ren	Ala
<u> </u>	O	<u>ග</u>	ပ
dap	gap	дар	gap
GTCAGCCGCTAC CTCGACTGGATCC [gap/T]ATGGGCAC ATCAGAGACAAG GAAGC	CCGGGCAGAGCT GCGTCTGCTGAG G[gap/G]CTCAAGT TAAAAGTGGAGCA GCACG	CCGGGCAGAGCT GCGTCTGCTGAG G[gap/G]CTCAAGT TAAAAGTGGAGCA GCACG	AATCTCCGCACTG gap CAGGCCAGGGC [gap/C]TGGCCAGC TACAGAGAGAGG
1536	1317	1317	847
cg44032168	cg43931248	cg43931248	cg43272560
632	633	634	635

φ (C)	7
5.20E-254 3	1.40E-182
5.20	
Human Gene SWISSPROT- ID:P32241 VASOACTIVE INTESTINAL POLYPEPTIDE RECEPTOR 1 PRECURSOR (VIP-R- 1) (PITUITARY ADENYLATE CYCLASE ACTIVATING POLYPEPTIDE TYPE II RECEPTOR) (PACAP TYPE II RECEPTOR) (PACAP-R-2) - HOMO SAPIENS (HUMAN), 457 aa.	Human Gene SWISSPROT- ID:P53611 GERANYLGERANYL TRANSFERASE TYPE II BETA SUBUNIT (EC 2.5.1) (RAB GERANYLGERANYLTRANSFERAS E BETA SUBUNIT) (RAB GERANYL GERANYLTRANSFERASE BETA SUBUNIT) (RAB GG TRANSFERASE) - HOMO SAPIENS (HUMAN), 331 aa.
tm7	transferase
FRAMES tm7	FRAMES HIFT
Gly (865)	Pro (866)
Gly	-EO
F	ပ
gap	gap
CCAGGATCCATTT gap TGAGGATTATGG[gap/TJGTGCTGGG ACACCATCAACTC CTCA	CAAATCCCCCGT gap TTCTTCATCTTG[g ap/GJACATGCTAA AATGAAATTACGC AGT
1067	625
cg43266471 1067	cg43995237 625
636	637

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1.40E-182	6.40E-257 X	3.80E-252 1	3.80E-252 1
Human Gene SWISSPROT- ID:P53611 GERANYLGERANYL TRANSFERASE TYPE II BETA SUBUNIT (EC 2.5.1) (RAB GERANYLGERANYLTRANSFERAS E BETA SUBUNIT) (RAB GERANYL GERANYLTRANSFERASE BETA SUBUNIT) (RAB GG TRANSFERASE) (RAB GGTASE) - HOMO SAPIENS (HUMAN), 331 aa.	Human Gene SWISSPROT- ACC:P78539 SUSHI REPEAT. CONTAINING PROTEIN SRPX PRECURSOR - Homo sapiens (Human), 464 aa.	Human Gene SWISSNEW- ACC:Q13228 SELENIUM-BINDING PROTEIN 1 - Homo sapiens (Human), 472 aa.	Human Gene SWISSNEW- ACC:Q13228 SELENIUM-BINDING PROTEIN 1 - Homo sapiens (Human), 472 aa.
transferase	UNCLASSI	UNCLASSI	UNCLASSI FIED
FRAMES	FRAMES	FRAMES HIFT	FRAMES HIFT
Phe (867)	Arg (868)	Leu (869)	Gly (870)
Leu	Arg	Pro	Gly
O	<u>ග</u>	gap	gap
gap	gap	ව	ပ
TTCTTCATCTTGA CATGCTAAAATG[g ap/G]AAATTACGC AGTTTCTCTCTAT CAA	CCGCCTCTGCTG CTGCTGCTGCC C[gap/G]GCGTCCC GCCCAGCCGCAG	ATCCAGGCTGAG CTGGATCATCTGA [G/gap]GGCCTCCA GCCACCCGTTTTC	CCAGGCTGAGCT GGATCATCTGAG G[G/gap]CCTCCAG CCACCGTTTTCC CTTGA
638	267	665	667
cg43995237		cg44034555	cg44034555
638	639	640	641

	1 (1p36.2)	9 (9q22.2)	20	20
1.00E-251	1.00E-201	3.50E-178	3.20E-147 20	3.20E-147
Human Gene SWISSPROT- ACC:P18428 LIPOPOLYSACCHARIDE-BINDING PROTEIN PRECURSOR (LBP) - Homo sapiens (Human), 481 aa.	Human Gene SWISSPROT- ACC:P18615 RD PROTEIN - Homo sapiens (Human), 380 aa.	Human Gene SWISSPROT- ACC:P09467 FRUCTOSE-1,6- BISPHOSPHATASE (EC 3.1.3.11) (D-FRUCTOSE-1,6- BISPHOSPHATE 1- PHOSPHOHYDROLASE) (FBPASE) - Homo sapiens (Human), 337 aa.	Human Gene Homologous to SPTREMBL-ACC:Q15182 SNRNP POLYPEPTIDE B - HOMO SAPIENS (HUMAN), 285 aa.	Human Gene Homologous to SPTREMBL-ACC:Q15182 SNRNP POLYPEPTIDE B - HOMO SAPIENS (HUMAN), 285 aa.
UNCLASSI FIED	UNCLASSI	UNCLASSI FIED	UNCLASSI	UNCLASSI FIED
FRAMES HIFT	FRAMES	FRAMES	FRAMES HIFT	FRAMES
Gly (871)	Asp (872)	Gly (873)	Leu (874)	Phe (875)
 	Asp	<u>^</u>	Pro	Phe
Ø	ပ	da p	gap	gap
gap	gap	O	ပ	ර
AGCGAGTCCTCC GGGAGGCCCACA G[gap/G]TTACTGC CTCCAGCTGCAG	CGTTCCAGAGGA GCATATCTGCTGA [gap/C]TGATGACC TGCAAGAGTCATC CAGA	GGAACTCGAGCA CGTCGTCGGGGG A[C/gap]CCCAAGA TCACCGGCGCCC TCTGGT	ATTCCCGGGGGA GGGGGCCCTGTA A[G/gap]GGAAACC AGACATCCCATG	TCCCGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG
882	379	306	195	197
	cg44128902	cg43946951	cg43948890	cg43948890
642	643	644	645	646

			T	
	5 (5q23)		2	2
3.20E-143	1.00E-107 5 (5q23)	2.50E-72	5.80E-50	5.80E-50
Human Gene Homologous to TREMBLNEW-ACC:AAD43025 PTD017 - HOMO SAPIENS (HUMAN), 258 aa.	Human Gene Homologous to SWISSNEW-ACC:Q99075 HEPARIN-BINDING EGF-LIKE GROWTH FACTOR PRECURSOR (HB-EGF) (HBEGF) (DIPHTERIA TOXIN RECEPTOR) (DT-R) - Homo sapiens (Human), 208 aa.	Human Gene Similar to SPTREMBL- ACC:060869 EDF-1 PROTEIN - HOMO SAPIENS (HUMAN), 148 aa.	Human Gene Similar to TREMBLNEW-ACC:AAD38944 NJAC PROTEIN - HOMO SAPIENS (HUMAN), 99 aa.	Human Gene Similar to TREMBLNEW-ACC:AAD38944 NJAC PROTEIN - HOMO SAPIENS (HUMAN), 99 aa.
UNCLASSI FIED	UNCLASSI	UNCLASSI FIED	UNCLASSI	UNCLASSI
FRAMES	FRAMES	FRAMES	FRAMES	FRAMES
Pro (876)	(877)	Gly (878)	Asp (879)	Asp (880)
Ala	Asp	<u>^</u> i0	<u>Á</u> Ö	Ö V
gap	o -	gap	gap	gap
ပ	gap	ن ن	ပ	ပ
GGGCCTGTCTGC CCAGTGGAGGAG G[C/gap]TTCCGCT GGTGTTCTAGGG GGCATC	CTCTCGGCACTG GTGACTGGCGAG Algap/GJCCTGGAG CGGCTTCGGAGA GGGCTA	TCGTGGCCAGGT CCTTCTGCGTAAG [C/gap]CCCTTGCT CTGCGACCTTG CTGCA	GGTCCAAATGCAA GTGCTCCCGGAA[G/gap]GGACCCAA GATCCGCTACAG CGACG	TCCAAATGCAAGT GCTCCCGGAAGG[G/gap]ACCCAAGA TCCGCTACAGCG ACGTG
713	373	681	450	452
cg43917524 713	cg43942004	cg43932428	cg44010855	cg44010855
647	648	649	650	651